Livestock Management Plan
And
Environmental Assessment

Lake Roosevelt National Recreation Area
Washington

Executive Summary

This document contains the Draft Livestock Management Plan and Environmental Assessment (Draft LMPEA) for Lake Roosevelt National Recreation Area located in northeastern Washington.

Purpose: The purpose of the Lake Roosevelt NRA Draft LMPEA is to manage grazing activities that were specifically authorized by federal law in 2001 in a manner that is consistent with the National Park Service mission and policies, and the park's purposes. This plan is only relevant to the land within Lake Roosevelt NRA.

Responsible Organization: U.S. Department of the Interior. National Park Service. Lake Roosevelt National Recreation Area.

Background: Grazing activities have occurred around Lake Roosevelt since the early 1930s. Lake Roosevelt National Recreation Area historically allowed grazing to occur within its boundary without clearly citing authority, confirming the need or value of grazing, or evaluating any impacts from grazing that could cause derogation to the values or purposes of the National Recreation Area.

In November 2001 Public Law 107-63, Section 114 specifically addressed grazing authority at Lake Roosevelt NRA. The law states that:

> "any federal lands included within the boundary of Lake Roosevelt NRA ... that were utilized as of March 31, 1997 for grazing purposes pursuant to a permit issued by the National Park Service, the person or persons so utilizing such lands as of March 31, 1997 shall be entitled to renew said permit under such terms and conditions as the Secretary may prescribe for the lifetime of the permittee or 20 years, whichever is less."

Plan Objectives: The following are livestock management objectives for the next five to ten years. Some of these objectives will be realized upon completion of this plan. Other objectives may be realized on a case by case basis as resources become available to implement recommended management actions.

- Manage livestock grazing activities consistent with the National Park Service mission and policies.
- Reduce or mitigate any natural and cultural resource impacts occurring due to livestock activities.
- Reduce or mitigate impacts on the visitor experience due to livestock activities.
- Define and implement terms and conditions of a livestock grazing special use permit.
- Develop methods of control for noxious weeds within individual livestock grazing allotments.
- Develop a monitoring program to assess changes to resource conditions from livestock grazing.

Issues: Several issues were identified during the scoping process. The issues this plan addresses includes water access and water quality, noxious weeds, visitor use conflicts, shoreline and wetland preservation, sublease of special use permits, fencing, and timing of grazing and duration of use.

Alternatives: The LMPEA analyzes three alternatives: the No Action Alternative, Moderately Manage Grazing Activities, and the Proposed Action Alternative. The tables below summarize each alternative and their related management actions.

Environmental Analysis: This document analyzes the potential effects of all three alternatives on the natural, cultural, and social aspects that currently exist within the park (chapter 6 and 7).

Summary of Alternative 1: No Action (Minimum Management).
Continue with Current Livestock Management Practices.

Management Actions

Noxious Weed Control	Allotment Size	Livestock # and Type	Use Period (length & time)	Natural Resource Protection	Cultural Resource Protection	Best Management Practices	Visitor Experience Protection
No deliberate program to control weeds. No coordination between permittees and park staff to control weeds.	Unchanged from 1997 SUP.	Only change if reduced herd voluntarily by permittee.	Unchanged from 1997. Does not consider climatic functions, livestock carrying capacity, or vegetation health.	No deliberate program to protect resources. No fencing to protect sensitive wetland and wildlife habitats. No upland watering developments. No monitoring program.	Livestock not excluded from sensitive cultural resource sites. No plans to mitigate impacts to cultural sites. No monitoring program.	No best management practices instituted.	No exclusion of livestock from beaches and recreational shorelines. No upland watering developments.

Summary of Alternative 2: Moderately Manage Grazing Activities.

Management Actions

Noxious Weed Control	Allotment Size	Livestock # and Type	Use Period (length & time)	Natural Res. Protection	Cultural Res. Protection	Best Management Practices	Visitor Experience Protection
No deliberate program, including mapping and monitoring, to control weeds. Increased coordination between permittees and park staff to control weeds.	The allotment sizes would reflect the numbers submitted by the permittees in their respective 2002 proposed grazing management plans.	Livestock numbers would change to reflect AUMs per NPS acres grazed. No monitoring program to determine if stocking rates could be sustained without damage or degradation to natural and cultural resources.	Unchanged from 1997. Timing of use not critical on many allotments. Exception would be Gifford where deferred grazing would occur once every three years. No monitoring program to determine if use period is acceptable for maintaining/ improving rangeland health.	No deliberate program to protect resources. No upland watering developments. No fencing to protect sensitive wetland and wildlife habitats. No monitoring program.	None. Livestock not excluded from sensitive cultural resource sites. No plans to mitigate impacts to cultural sites. No monitoring program.	Best management practices would be followed for native bunchgrass species.	No exclusion of livestock from beaches and recreational shorelines. No upland watering developments.

Summary of Alternative 3: Proposed Action (Environmentally Preferred Alternative).
Actively Monitor and Manage Grazing Activities.

Management Actions

Noxious Weed Control	Allotment Size	Livestock # and Type	Use Period (length & time)	Natural Resource Protection	Cultural Resource Protection	Best Management Practices	Visitor Experience Protection
Deliberate weed control and monitoring program implemented on the allotments. Conduct weed inventory and mapping. Coordinate with all interested agencies and organizations to control weeds. Include allotments as part of the park's overall Invasive Plant Management Plan. Permittees and volunteers play active role in weed control.	Change to reflect acres actually use, and exclude landslide areas.	Livestock numbers would change to reflect AUMs per NPS acres grazed. Implement monitoring program to determine if stocking rates could be sustained without damage or degradation to natural and cultural resources.	Initially set to when and for how long permittees currently use NPS grazing allotments. Timing of use is critical and will follow best management practices as a result of Level I and Level II monitoring.	Upland watering developments on Rosenberg #1 and possibly Green. Fence areas to protect sensitive wetland and wildlife habitats. Institute Level I and Level II monitoring program.	Livestock either excluded from sensitive cultural resource sites or actions taken to mitigate impacts to cultural sites. Cultural resources part of Level I and Level II monitoring program.	Best management practices would be followed for native bunchgrass species.	Upland watering developments, fencing, and/ or other methods used to detract livestock from recreational shoreline.

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1.0 Introduction

Lake Roosevelt National Recreation Area (Lake Roosevelt NRA), located in northeastern Washington (Figure 1), was established in 1946 following the Secretary of Interior's approval of a Tri-Party Agreement among the National Park Service (NPS), Bureau of Reclamation, and Bureau of Indian Affairs. On April 5, 1990 the Lake Roosevelt Cooperative Management Agreement was signed, which expanded cooperative management of the lake to include the Confederated Tribes of the Colville Reservation and Spokane Tribe of Indians.

The National Park System was originally created by the 1916 Organic Act which has the mission to

> "*conserve the scenery and the natural and historical objects and the wildlife therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations*" (NPS, 1916).

The General Authorities Act of 1970 further defined the National Park System to include "any area of land and water administered by the National Park Service for park, monument, historic, parkway, recreational, or other purposes." The Act confirmed that Lake Roosevelt NRA, by definition, was a unit of the national park system and was charged to manage the unit in conformance with all National Park Service Policies.

Lake Roosevelt National Recreation Area consists of 312 miles of shoreline, 47,438 acres of surface water at full pool, and 12,936 acres of land. The lands of Lake Roosevelt NRA are a narrow band above the maximum high water mark (1,290 feet). The width of shoreline and land varies, but at its maximum width it is approximately ½ a mile.

Park purposes as defined in the General Management Plan of 2000 are as follows:

- Provide opportunities for diverse, safe, quality, outdoor recreational experiences for the public.
- Preserve, conserve, and protect the integrity of natural, cultural, and scenic resources.
- Provide opportunities to enhance public appreciation and understanding about the area's significant resources.

Note: The word "park" is used for the Recreation Area meaning "a National Park Service unit."

1.1 Background/Historical Perspective

Grazing activities have occurred around Lake Roosevelt since the early 1930s. Lake Roosevelt National Recreation Area historically allowed grazing to occur within its boundary without clearly citing authority, confirming the need or value of grazing, or evaluating any impacts from grazing that could cause derogation to the values or purposes of the National Recreation Area.

The 1988 National Park Service Management Policies stated that: "Commercial grazing or stock driveways will be allowed only in those parks where (1) they are specifically authorized by federal law, (2) they were retained as a reserved right arising from NPS land acquisition, or (3) they are necessary to maintain the historic scene. Grazing and stock driveways will be eliminated in all other parks."

The 1990 Special Park Use Management Plan determined that grazing was not an authorized use and stated that: "grazing permits that are inactive and/or not utilized by the permittee for two consecutive years will not be renewed. Grazing permits may be renewed at expiration of the current permit (1992) for no more than three years. All permits will be phased out by 1995." Grazing special use permits were not phased out in 1995. The 1992 permittees were given new permits that expired in February and March, 1997. Since 1997 park Superintendents have written annual letters of authorization for grazing.

Figure 1

In November 2001 Public Law 107-63, Section 114 specifically addressed grazing authority at Lake Roosevelt NRA. The law states that:

> "any federal lands included within the boundary of Lake Roosevelt NRA ... that were utilized as of March 31, 1997 for grazing purposes pursuant to a permit issued by the National Park Service, the person or persons so utilizing such lands as of March 31, 1997 shall be entitled to renew said permit under such terms and conditions as the Secretary may prescribe for the lifetime of the permittee or 20 years, whichever is less."

Following the 2001 legislation, the permittees were sent formal letters and asked "if they were interested in obtaining a grazing permit, and if so they would need to submit grazing plans and environmental analysis … "(NPS, 2001b). The permittees submitted livestock management proposals based on surveys conducted by a Natural Resource Conservation Service Range Management Specialist and a Forestry Consultant. No environmental analyses were conducted by the permittees.

1.2 Purpose and Need for a Livestock Management Plan

Purpose of Plan

The purpose of the Lake Roosevelt NRA Livestock Management Plan and Environmental Assessment is to manage grazing activities that were specifically authorized by federal law in 2001 in a manner that is consistent with the National Park Service mission and policies, and the park's purposes. This plan is only relevant to the land within Lake Roosevelt NRA.

Need

National Park Service Management Policies 2001, Section 8.6.8.3 states that: "Each park that allows domestic or feral livestock … will prepare a livestock management plan designed to sustain and protect park resources and values … particular attention will be given to protecting wetland and riparian areas, sensitive species and their habitats, water quality, and cultural resources." Lake Roosevelt National Recreation Area does not have a Livestock Management Plan and is the sole manager of grazing use within its boundaries. Livestock grazing and its residual impacts have the potential to effect visitor experiences, water quality, wildlife forage availability, noxious weed control, cultural resource sites, riparian and upland vegetation health, soil and lake bank stability, and a scenic and clean shoreline.

Director's Order #53: Special Park Uses under section 3.5 states that "*Superintendents will establish permit conditions that protect NPS and public interests, including park resources and values. Special park uses may be authorized for a period of not-to-exceed five years*." The Livestock Management Plan and Environmental Assessment must be completed before special use permits are renewed.

2.0 Management Goals and Objectives

2.1 Goals

National Park Service Policies 2001 gives overall management direction for livestock use in national park units. Section 8.6.8.2. of the Policies state that:

> "Managers must regulate livestock so that ecosystem dynamics, and the composition, condition, and distribution of native plants and animal communities, are not significantly altered or otherwise threatened, and cultural values are protected. Conflicts with public use and enjoyment must be kept to a minimum."

The Strategic Plan for Lake Roosevelt NRA, Fiscal Years 2001-2005 defines the park's mission as follows.

> "As a unit of the National Park System, Lake Roosevelt NRA is dedicated to conserving, unimpaired, the natural and cultural resources and recreational and scenic values of Lake Roosevelt for the enjoyment, education, and inspiration of this and future generations. We also share responsibility for advancing a great variety of programs designed to help extend the benefits of natural and cultural resource conservation and outdoor recreation."

The Lake Roosevelt NRA General Management Plan of 2000 identifies the park's overall resource management goal as follows.

> "The natural, cultural, and scenic resources of the national recreation area are protected and preserved to ensure that the integrity of the environment is not compromised and the quality of the visitor experience is enhanced."

2.2 Objectives

The following are livestock management objectives for the next five to ten years. Some of these objectives will be realized upon completion of this plan. Other objectives may be realized on a case by case basis as resources become available to implement recommended management actions.

- Manage livestock grazing activities consistent with the National Park Service mission and policies.
- Reduce or mitigate any natural and cultural resource impacts occurring due to livestock activities.
- Reduce or mitigate impacts on the visitor experience due to livestock activities.
- Define and implement terms and conditions of a livestock grazing special use permit.
- Develop methods of control for noxious weeds within individual livestock grazing allotments.
- Develop a monitoring program to assess changes to resource conditions from livestock grazing.

3.0 Identification of Issues Addressed within the Scope of this Plan

Many of the issues identified in this plan are also permittee concerns that were expressed during scoping meetings in 2002, 2003, and 2004. Please refer to Section 8.0 Consultation and Coordination for a discussion on scoping.

3.1 Water Access and Water Quality

Access to Lake Roosevelt surface waters and associated tributaries within the park for livestock grazing purposes is a major concern to the National Park Service. Livestock use over time along the lake shoreline and beaches, tributary streams, and riparian areas may degrade water quality through increased sediments and fecal coliform, trample sensitive wetland vegetation, increase soil erosion into waterways, and present potential visitor use conflicts. Most permittees have water sources developed on private lands upland from the lake and adjacent to the allotments because private housing and livestock use or other operations necessitate this. Although upland water sources may be available on many allotments, livestock access the lake wherever it is physically possible. Some permittees have voiced their concern about legal water rights to the lake.

3.2 Noxious Weeds

Federal, state, local agencies, and individuals have identified invasive exotic plants as a critical land based natural resource issue within Lake Roosevelt NRA. Exotic plants interfere with native plant species, wildlife habitats, visitor enjoyment, and can completely alter the landscape and viewshed that are

significant values within the park. These alien plants are invading habitat for state listed native plants including *Astragalus arrectus* (Palouse milk-vetch) a threatened species and *Antennaria parvifolia* (Nuttal's pussytoes) a sensitive species. Noxious weed control is important to the permittee for the health of the livestock and the range condition.

3.3 Visitor Use Conflicts

The park's General Management Plan of 2000 defined one aspect of park significance as follows: "It offers a wide variety of recreation opportunities in a diverse natural setting on a 144-mile-long lake bordered by 312 miles of publicly owned shoreline that is available for public use." Some of the recreational opportunities along the shoreline include swimming, fishing, access to boat launches, picnicking, hiking, and camping. A concern exists that even though livestock may not be present during peak visitor use seasons, lasting impacts along the shoreline from manure, vegetation trampling, exotic plant infestations, and soil erosion may affect visitor use, experience, and enjoyment.

Spring Canyon District Allotment (Spring 2003). NPS photo

3.4 Shoreline and Wetland/Riparian Preservation

Grazing impacts along the Lake Roosevelt shoreline and wetlands within the National Recreation Area are of significant concern. Livestock use and its residual impacts along the shoreline may impact the quality of the visitor experience, contribute to potential lake bank instability and erosion, increase nutrient levels in the lake, cause vegetation trampling and increase bare ground thus providing greater opportunities for non-native vegetation species to invade (Washington State Dept. of Ecology, 2001). Riparian resources, which may include wetlands, are of significant importance parkwide and in general the western United States. Riparian areas are unique in arid environments particularly as exist in the southern half of the park. Protection of the park's shoreline, wetland, and riparian resources are a management priority.

3.5 Sublease or Transfer of Special Use Permits (SUPs)

On one allotment the permittee leases private land, which is adjacent to the park, for grazing purposes. Livestock that graze on this leased private land are not prevented from accessing parkland for grazing, which occurs and has been documented by park staff. National Park Service policies state that special use permits cannot be sublet, sold, or transferred (NPS, 2002).

3.6 Fencing to Manage Livestock Grazing

Much of the fencing on the allotments is old and broken and needs repair or replacement. Most allotments have no fencing to separate private livestock grazing areas from National Park Service land. This makes it difficult to ensure that livestock are grazing in the proper areas at the proper time of year and for the proper length of time.

3.7 Timing of Grazing and Duration of Use

Previous individual SUPs had a specified time of year and duration of use for livestock grazing, but the dates were not based on any surveys, range assessments, or monitoring information. Timing of grazing and duration of use on previous SUPs may or may not be appropriate today. Timing and duration is critical to the health of the ecosystem.

4.0 Issues Outside the Scope of this Plan

4.1 Hunting and Other Park Uses

Hunting on Lake Roosevelt NRA lands adjacent to private lands was expressed as a concern at the scoping meetings. It was noted that sometimes hunters cross over onto private lands to hunt and in the process may leave litter, drive off-road or even damage private property. The park recognizes this issue as a concern to adjacent private landowners, but is outside the scope of a Livestock Management Plan. Hunting and other special park uses will not be addressed in this plan.

4.2 Park Boundary Identification

It is recognized that the Lake Roosevelt NRA boundary needs to be better identified. The park is currently prioritizing boundary marking needs, which may include grazing allotments.

4.3 No Grazing

This issue is outside the scope of this plan because Congress has mandated grazing as an activity that will occur within Lake Roosevelt NRA. The National Park Service defines grazing as a special park use. Its use is allowed through the special use permit process, which includes the application of terms and conditions for each permit. Please refer to Section 1.1 for a description of Public Law 107-63, which states that "grazing may occur for the lifetime of the permittee that was authorized in 1997 or 20 years from the date of legislation in 2001, whichever is less." Only the permittees authorized by permit in 1997 can qualify to renew their permits. The privilege of grazing can continue only if the permittees abide by the terms and conditions of their special use permit. Grazing privileges may be temporarily revoked if terms and conditions are violated. Otherwise, grazing may continue until the year 2021, at which time grazing will no longer be legally authorized on Lake Roosevelt NRA lands.

5.0 Description of Alternatives

5.1 Actions Common to All Alternatives

5.1.1 Educate Public About Livestock Grazing within Lake Roosevelt NRA

Public awareness concerning livestock management activities within the park may be conveyed in a number of various mediums that are deemed appropriate. These methods may include, but are not limited to the park newspaper, educational signs and/or handouts.

5.1.2 Enforce Permit Terms and Conditions

Special use permits will be renewed for the seven currently authorized individuals regardless of which alternative is implemented. Those permits will include terms and conditions that the park must enforce to allow for the continued livestock grazing use privilege to occur, as identified in P.L. 107-63, Section 114, on the permitted lands while at the same time protecting the park's natural and cultural resources.

5.1.3 Enhance Communication Among All Permitted Livestock Operators and the National Park Service

The park staff will work more diligently to better communicate with the permitted livestock operators in order to make the plan viable and meaningful. The park will maintain an open door policy for any livestock operators to voice their concerns, communicate range conditions, and communicate any critical resource problems or other issues to park staff. Primary points of contact will be field personnel, such as the District Rangers for Spring Canyon and Kettle Falls. The Chief of Compliance and Natural Resources Management is the park's primary point of contact for overall livestock management. Semi-annual meetings with the permittees and park staff will be conducted to develop better communications.

5.1.4 Provide for Periodic Review and Plan Update

It is critical to understand that this plan is intended to guide overall management of livestock activities for the next 10 years. This plan will be reviewed every year. This will allow for minor plan adjustments regarding possible changes in national livestock management policies, and special use permit terms and conditions. Individual allotment improvements, developments, or major changes to livestock operations will require specific action plans and associated environmental assessment documentation.

5.2 Alternative 1: No Action (Minimum Management). Continue with Current Livestock Management Practices.

This alternative would renew the grazing special use permits that expired in 1997 as is, and would not address specific issues identified in this plan, nor would this alternative help the park achieve the stated purpose, goals, and objectives for livestock management within Lake Roosevelt NRA. Annual livestock grazing allocations, acreages, and use periods would remain unchanged. Livestock would continue to access the lakeshore for watering purposes and in the process impact natural and cultural resources, and visitor experiences. Livestock would not be excluded from sensitive natural resource areas and cultural sites. No formal monitoring program for natural and cultural resources would be initiated. Control and monitoring of noxious weeds within the allotments would not be a priority. Grazing fees would continue to be charged as in the past, without adjusting for the livestock carrying capacity, and environmental factors influencing annual vegetative growth in each allotment.

5.3 Alternative 2: Moderately Manage Grazing Activities.

This alternative would renew the grazing special use permits that expired in 1997 with some modifications, but no changes to the terms and conditions of the permit. In September 2002 most of the permittees submitted plans for livestock grazing within the park. This alternative is a summary of the combined plans with some modifications. Most of the allotments were treated as whole units (public and private land) when considering AUMs, number of livestock, season of use, and purpose of use. This alternative modifies the permittee plans and considers only NPS lands. Monitoring for desired range conditions and indicator species on such species as bitterbrush and bunchgrass would be conducted. Native bunchgrass guidelines are described in Appendix B. Monitoring for weed conditions and trends is important in this alternative, however no method is outlined. This alternative proposes that the NPS and permittees meet periodically to discuss issues and concerns. Under this alternative livestock would continue to access the lake and riparian areas for watering purposes. Grazing fees would continue to be charged as in the past, without adjusting for the livestock carrying capacity in each allotment. Some of the issues and concerns identified in the livestock management plan that this alternative would not address include 1)shoreline and wetland preservation, 2) water quality protection, 3) sublease or transfer of special use permits, 4) cultural resource protection, 5) threatened and endangered plant and animal species protection, 6) soil erosion and compaction,
7) repairing, maintaining, and/or building fences, and 8) visitor enjoyment.

Table 1. Description of Alternative 2. Moderately Manage Grazing Activities.

Allotment	NPS Acres	Key Species *	Season of Use	Use Level by Weight or Height	** Total Livestock	AUM use on NPS
Henslee	59	POPR and BRTE	Timing of use not critical.	2 inches 8 inches regrowth	8 horses 7 llamas	16.4
Eckman	14.3	POPR and ELRER	Timing of use not critical.	2 inches 10-12 inches regrowth	64 cattle	4.9
Esvelt	9	BRTE and POBU	Timing of use not critical.	2 inches 6-8 inches regrowth	23 cattle	1.8
Gifford	44	ELIN	Defer grazing mid - late spring once every three yrs.	50% Spring 60 % Fall	10 cattle	26
Coffman	35	Crested Wheatgrass (intro. bunchgrass)	Timing of use is not critical if do not graze in spring.	50% Spring 60 % Fall	15 cattle	Approx. 25
Green	225	Perennial bunchgrass, Bitterbrush	April 1st to May 31st. May not use all AUMs per season. Two months in the Fall.	50% Spring 60 % Fall	50-55 cattle	32
Rosenberg #1 –Spring Canyon	47	Perennial bunchgrasses	April 1st to May 31st. May not use all AUMs per season.	50% Spring	15 cattle	5
Rosenberg #2- Shaw/ Neal Canyon	244	Bunchgrasses, annual grasses, bitterbrush	April 1st to May 31st. May not use all AUMs per season. Two months in the Fall.	50% Spring 60 % Fall	50-55 cattle	40

* POPR: kentucky bluegrass, BRTE: cheatgrass, ELRER: quack grass, POBU: bulbous bluegrass, ELIN: intermed. wheatgrass.
** The total livestock number is for private and park land. There is no fencing to separate the two land types on most allotments.

5.4 Alternative 3: Proposed Action (Environmentally Preferred Alternative). Actively Monitor and Manage Grazing Activities.

This alternative would renew the livestock grazing special use permits for all permittees who specifically expressed interest in writing in 2003 to continue grazing activities within Lake Roosevelt NRA. Permit terms and conditions would be revised and implemented as described in Appendix A. It is the intent of this alternative to work closely with the permittees and other land managers in the state to determine the best strategies that will accomplish the objectives of this livestock management plan. Best management practices will be instituted and enforced as described below and in Appendix B. A strategy to control noxious weeds will be developed that involves the permittees.

A monitoring program will be developed and implemented by park staff to assess the effectiveness of management actions and evaluate changes to natural and cultural resource conditions due to livestock grazing.

Allotment acreage will be adjusted using GIS to reflect lands actually grazed, excluding landslide areas (see Figures 4 and 5). Allotment size will not increase from that which is currently being used. In most cases allotments are bordered by private lands, the lake, roads, or undesirable grazing lands.

Season of use will be in the Fall and Spring. The exact timing and dates will vary depending on environmental conditions (dry, wet, or normal precipitation year) and vegetative growth for each allotment. District Rangers will need to work directly with the permittees to determine livestock use during low production years. Please refer to Appendix B.

Livestock numbers would stay the same as they are today, but may change over time if monitoring proves a need to do so. Figures 2 and 3 depict 1997 special use permit information, which show differences in park permit data from actual on-the-ground practices of today.

Grazing fees will be charged according to 43 CFR 4130.7-1. See Appendix D for a description of the grazing fee formula, permit fees, and cost recovery.

This alternative would meet environmental policy mandates. Most actions would be implemented immediately, but others such as Level II monitoring, upland watering source developments and new fence construction would be phased in over time.

Best Management Practices

The proposed action will actively manage livestock use within Lake Roosevelt NRA by fostering best management practices (BMPs) that "protect vegetation and wildlife and their habitat, safeguard sensitive species, control proliferation of nonnative species, conserve soil, protect natural waterways and groundwater, avoid toxic contamination, and preserve cultural sites" (NPS, 2002a). Other significant values to be protected through BMPs include the visitor experience, the scenic viewshed surrounding the lake and shoreline, and the undeveloped beaches. The BMPs outlined in this plan are based on consultation and coordination efforts with several different agencies at the local, state, and national levels, Lake Roosevelt NRA staff, and other National Park Service professionals.

The BMPs may include number and types of animals; season of use, duration and frequency of grazing; removal or exclusion of livestock from sensitive habitats; type and placement of watering locations; treatment of noxious weeds; and inventory and monitoring of livestock grazing impacts.

Appendix B. describes the management guidelines for native bunchgrasses for eastern Washington as developed by the Natural Resource Conservation Service Ephrata and Spokane offices. These guidelines are currently followed by the Bureau of Land Management and NRCS in the state of Washington. These guidelines will be adopted and followed by Lake Roosevelt NRA.

Table 2. Description of Alternative 3. Actively Monitor and Manage Grazing Activities on Lake Roosevelt National Recreation Area Lands.

Allotment	NPS Acres	Key Species *	Season of Use	Use Level by Weight or Height	** Total Livestock	AUM use on NPS
Henslee	59	POPR and BRTE	See Appendix B for fields with native bunchgrasses.	50% Spring 60 % Fall	8 horses 7 llamas	16.4
Eckman	14.3	POPR and ELRER	See Appendix B for fields with native bunchgrasses.	50% Spring 60 % Fall	64 cattle	4.9
Esvelt	9	BRTE and POBU	Use may be delayed until wetlands are restored.	50% Spring 60 % Fall	23 cattle	1.8
Gifford	44	ELIN	See Appendix B for fields with native bunchgrasses.	50% Spring 60 % Fall	10 cattle	26
Coffman	35	Crested Wheatgrass (intro. bunchgrass)	See Appendix B for fields with native bunchgrasses	50% Spring 60 % Fall	15 cattle	Approx. 25
Green	225	Perennial bunchgrass, Bitterbrush	April 1st to May 31st. Up to two months in the Fall.	50% Spring 60 % Fall	50-55 cattle	32
Rosenberg #1 Spring Cany.	47	Perennial bunchgrasses	April 1st to May 31st. May not use all AUMs per season.	50% Spring 60% Fall	15 cattle	5
Rosenberg #2 Shaw/ Neal Canyon	244	Bunchgrasses, annual grasses, bitterbrush	April 1st to May 31st. Up to two months in the Fall.	50% Spring 60 % Fall	50-55 cattle	40

* POPR: kentucky bluegrass, BRTE: cheatgrass, ELRER: quack grass, POBU: bulbous bluegrass, ELIN: intermed. wheatgrass.
** The total livestock number is for private and park land. There is no fencing to separate the two land types on most allotments.

Range Improvements

- Park staff will work with individual permitees to determine best locations for fencing to deter livestock from accessing popular visitor use beaches and sensitive resource areas.

- Park staff will work with individual permittees to assess and develop alternative upland watering sources if necessary to protect visitor use beaches and sensitive resource areas. This evaluation/assessment process should start as soon as possible. No watering developments are needed for Henslee, Eckman, Esvelt, Gifford, or Coffman because they already exist on private lands adjacent to the respective federal grazing allotment. The Rosenberg and Green allotments may need to be assessed for potential upland watering source developments.

- Existing fences will be repaired and/or cleaned up by the permittee where there are breaks and fence is on the ground, which may pose a danger to wildlife or visitors. Fencing can't be attached to trees.

- Costs of improvements will be borne by the park and permittees as agreed to in individual allotment management plans or cooperative agreements. Please refer to Appendix A. #11.

Figure 2

Figure 3

Figure 4

Figure 5

- Resource inventories (including cultural, botanical, and wildlife) as part of natural and cultural resource compliance will be conducted before any new fence or water development project is undertaken. If important resources are identified or located, the project will be redesigned to reduce or eliminate impacts to those resources. If cultural properties cannot be avoided, consultation will be conducted with the Office of Archeology and Historic Preservation, the Confederated Tribes of the Colville Reservation, the Spokane Tribe of Indians, and in some cases the Advisory Council on Historic Preservation.

- Management Area general guidelines will be followed as described in Table 3. when constructing fences and upland watering sources within the park. For specific construction techniques, the Bureau of Land Management or U.S. Forest Service fence standards will be followed.

Treatment of Noxious Weeds/Exotic Invasive Plant Species

- Noxious/invasive weeds will be treated or controlled using mechanical, biological or chemical methods as determined and approved by National Park Service integrated pest management procedures.

- Priorities will be developed by the park for target areas of control. Washington State Class A and B designate species should receive the highest priority for control. Class B non-designates and Class C species will be prioritized for control based upon case-by-case situations.

- Control techniques and chemicals used may vary in the allotments depending on soil type, species present, proximity to water sources and developed visitor use areas.

- When chemical treatments are made the application method will be the least invasive to the resources. For example: off road vehicles will not be used outside development zones.

- Aggressive control techniques should only be undertaken in conjunction with a monitoring program and reseeding. Native species are preferred for reseeding regardless of the management area defined in the Park's General Management Plan. Livestock will be kept out of newly planted areas.

- Grazing or moving livestock through populations of noxious weeds while they are setting seed or when fruit is ripened will not be allowed (University of Nevada, 2003).

- Interagency and private landowner cooperation is essential to the success of control methods. Noxious weed control will be coordinated through organized regional interagency efforts such as the Lake Roosevelt Forum-Weed Group, Quad County Weed Group, and the NPS Columbia Cascades Exotic Plant Management Team.

- Private landowners may assist the park with control efforts. State and federal requirements for chemical treatments must be met by all applicators. Permittees must obtain written consent from the park Superintendent prior to any treatment for invasive plant species on park lands.

- Monitoring is essential to determine whether control methods and reseeding efforts are successful. The Intermountain Region of the National Park Service has developed Inventory, Mapping, and Monitoring Guidelines for Invasive Plants (NPS, 2002b). Other monitoring protocols are being used at park, regional, and national levels. The park will coordinate with the national NPS strategy for invasive species monitoring.

- Exotic plant control and monitoring efforts will be incorporated into inventory and mapping of invasive exotic plants at Lake Roosevelt NRA that are conducted by the University of Idaho (NPS, 2003e).

Inventory and Monitoring of Grazing Impacts and Plant Community Status

Grazing use must be evaluated and monitored on a regular basis to determine if the plans' goals and objectives are being met and best management practices achieved. The National Parks Omnibus Management Act of 1998 (Title II-National Park System Resource Inventory and Management) is cited as the authority for park units to conduct research, undertake baseline inventory and long-term monitoring, and use study results for park management decisions. Management policies state that "natural and cultural resource protection will be given first priority when determining livestock management priorities. A monitoring program must be implemented, and will be used to detect change and adjust management to protect resources" (NPS, 2001a). Monitoring recommendations from this plan will be incorporated with the park's future vegetation management and invasive exotic plant management plans.

A two-tiered monitoring approach will be applied to the Lake Roosevelt livestock grazing allotments. It is important to remember this monitoring regime applies only to federal National Park Service lands and will be conducted by park personnel. Also note that the allotments range in size from approximately eight acres to over 200 acres.

Level I Monitoring

The purpose of this monitoring is to detect any obvious violations of permit terms and conditions, and any gross changes and/or impacts to the natural and cultural resources and the visitor experience. For example: the effects of a range improvement will be monitored, i.e. is there a reduction of soil erosion and compaction, vegetation trampling, or feces presence along a visitor use beach? Also, the effects of noxious weed control efforts will need to be evaluated during the assessment.

This is as a rapid assessment monitoring program and mostly visual in nature. The rapid assessment form and impact analysis form are independent of each other and will give resource managers a snapshot in time of what is happening on the ground. Level I monitoring is not intended to determine rangeland health, but rather assess any major changes. This level of monitoring can be completed by non-range conservation specialists such as park rangers, volunteers, natural resource specialists and biological technicians. Line transects will be conducted to give adequate representation of the resource conditions. Larger and more diversified allotments may require more transects. For example: an allotment may require monitoring in a riparian area and upland area.

Park natural resource staff will determine the basic monitoring criteria and method. Once the baseline is established then the District Rangers will be responsible for implementing the program. It is intended that this assessment be completed in a rapid amount of time, 15 minutes per transect. Monitoring will be conducted before livestock grazing begins, during the grazing period, and after the grazing period.

The indicators, assessment instructions, and forms are described in Appendix C. The assessment would be coordinated through the Chief of Compliance and Natural Resource Management who will provide an annual summary of data.

The goal of Level I Monitoring is to establish the program in the first one to five years. Methods will be tested and modified if necessary to improve the value and usefulness of data collected. Within the first five years priorities will be set for work that needs to be done in the future or in Level II Monitoring. Results at this level may be used to control livestock grazing within each allotment.

Level II Monitoring

This would be defined as an intensive long-term monitoring of rangeland health. This monitoring would be conducted on a five year cycle by one or more professional range conservationists, using proven methods and techniques such as is identified in "Interpreting Indicators of Rangeland Health" (BLM, 2000). The permittees would pay for this assessment to determine the rangeland health for each federal allotment under a special use permit privilege for livestock grazing purposes within Lake Roosevelt NRA. Some general considerations and guidelines for a Level II Monitoring Program include:

- Each allotment will be analyzed to determine the adequacy of existing baseline resource information. Where baseline information is lacking it will be obtained.

- Monitoring in a "non-grazed" comparable vegetation/soil site (control site) near each allotment will be valuable to help provide a reference for evaluating ecosystem health, impacts and trends.

- Conduct soil surveys that would be evaluated in conjunction with Natural Resource Conservation Service ecological site inventories and forage suitability groups that portray the health of soils as well as biotic communities they support.

- Utilization levels of key upland native plant species will be 50% utilization of current year's growth by weight unless otherwise noted in Appendix B. Utilization checks will be conducted in the heaviest used areas of each pasture. These often are located adjacent to watering locations.

- Upland bunch grasses will be monitored to assess the effects of grazing and to determine any needed changes in management. If shrub species are part of the grazing regime, then these species will need to be included in the monitoring protocols.

- Vegetation reflects the most immediate influences of overgrazing, defoliation, and trampling. Some useful parameters to determine vegetation condition and trend include:
  a) Photo points (individual plants and landscape view).
  b) Plant phenology (stage of growth) of key plants (bluebunch wheatgrass, Idaho fescue, needle and thread grass, and other plants of interest).
  c) Nested-frequency transects: to gather quantitative data on change over time and on plant cover. This method provides quantifiable data versus a visual record. (Structure, composition, frequency, abundance, density, and cover)
  d) Biomass production
  e) Amount of forage used by animals

Administration

The Compliance and Natural Resources Management Division is the lead in coordinating implementation of the Livestock Management Plan. District Rangers will be the primary field contact for the permittees. Efforts will be coordinated with all appropriate divisions regarding various aspects of the plan such as special use permitting and enforcement of terms and conditions with the Protection Division, development projects with the Protection and Maintenance Division, and any educational and volunteer efforts with the Resource Education Division. Livestock management impacts all aspects of park operations in some form thus interdivisional communication and coordination is critical to the plan's success. Plan implementation efforts will be coordinated with other agencies and organizations at the local, state, and federal level. Aggressive and creative funding sources will need to be sought to

implement a successful plan. Any water quality permits required by the Washington Department of Ecology will be secured before developing upland water sources.

Management Areas

The park's General Management Plan of 2000 identified "management areas" which define acceptable resource conditions, visitor use and experiences, and appropriate types and intensity of development for Lake Roosevelt NRA. The proposed action would manage livestock grazing in conformance with the prescriptions identified for each management area. For example: the Henslee allotment falls within the "Dispersed Recreation" management area (see Table 3. and Figure 6).

Table 3. Management Area Descriptions

Dispersed Recreation (Henslee, Green, Rosenberg #2 – Shaw/Neal Canyon Pasture)	Visitors experience a primarily natural* landscape. Visitors have the opportunity to seek quiet and solitude in undeveloped areas. Access primarily from water. Resources managed to preserve or restore the area's natural character. The visual character of the landscape within the area predominantly natural. Nonnative plants or other species will not be introduced into these areas.
Developed Recreation (Eckman, Esvelt, Gifford)	Access by existing roads is possible. Resources managed to maintain the natural character of the area and to enhance the visitor experience. The visual character of the landscape mostly natural. Native plant species maintained in natural areas, but nonnative species can be used in developed areas to resolve specific problems that native species cannot address.
Concentrated Recreation (Coffman and Rosenberg #1 – Spring Canyon Pasture)	Access by land and water. This management area has the highest level of service and structured visitor activities, such as exists at Spring Canyon and Keller Ferry. Resources primarily managed to enhance the visitor experience. The visual character of the landscape is dominated by man-made elements. Maintaining the natural character of the landscape is important, but secondary to development. Construction materials and colors should blend with the natural environment, but buildings and structures may vary in style. Maintaining native plant species should be emphasized, but nonnative species can be considered to resolve problems.

* The word natural as used in the above descriptions does not imply that the area would be completely undisturbed by humans. Natural as used above means that the area is natural in appearance and it will not be obvious to the casual observer that there has been human disturbance. The area will be populated primarily by native species of plants even though they may have been modified in the past.

Figure 6

6.0 Affected Environment/Current Conditions

This section addresses only the affected environment within the livestock grazing allotments. The focus is on resources that potentially may be impacted as a result of livestock grazing. Information used for these sub-sections came from professional interdisciplinary surveys, literature searches, publications, and consultation with various agencies and individuals.

6.1 Location and Description of Allotments

There are currently seven permittees that operate eight separate allotments dispersed along the park's shoreline and upland resources. Four allotments are located in the Kettle Falls District (Figure 2.) and four allotments are in the Spring Canyon District (Figure 3.). The allotments as defined in the 1997 Special Use Permits encompassed approximately 644 total acres. The permittees are from north to south as follows. See Table 4 for more description.

- Henslee: T38N, R37E, portions of sections 20, 21, 28, and 29.
- Eckman: T37N, R37E, portions of sections 22, 23, 25, and 26.
- Esvelt: T34N, R37E, portions of section 32, T33N, R37E, portions of section 5.
- Gifford: T32N, R37E, portions of sections 3 and 4.
- Coffman: T28N, R33E, portions of section 8 and 17.
- Green: T28N, R32E, portions of sections 21 and 22.
- Rosenberg: T28N, R31E, portions of sections 9, 10 and 12, T28N, R32E, portions of sections 7, 17, 18, and 20: (two separate allotments).

The allotments do not have improvements for watering. Allotments in the Kettle Falls District have fencing, but most are in need of repair. The Spring Canyon District allotments are not fenced to prevent lake access, except at Plum Point Boat-in Campground. Some natural barriers such as high cliffs prevent livestock in both districts from accessing the lake. Fencing to separate private land from park allotments in both districts is sporadic, in disrepair, or non-existent.

Table 4. Description of 1997 Special Use Grazing Permits*

Allotment	NPS Acres Permitted	Private Acres Adjacent to NPS	Livestock # and Type	Season of Use	County
Henslee	75	45	21 sheep, 8 horses, and 7 llamas	April 1 – November 30	Stevens
Eckman	77	118	28 cattle	April 1 – November 30	Stevens
Esvelt	9	120	28 cattle	May 1 – September 15	Stevens
Gifford	44	40	20 cattle	May 15 – September 30	Stevens
Coffman	35	100	20 cattle	January 31 – December 31	Lincoln
Green	126	1000	50 cattle	2 mo. Spring 1 mo. Fall	Lincoln
Rosenberg	278 (2 areas)	1080	20 cattle	April 1 – May 31 and November 1 – November 30	Lincoln

*These are the permittees that requested continuance of use and are currently operating under a Superintendent's letter of authorization. More SUPs for grazing were issued in the past, but they have not been active since prior to 1997.

6.2 Allotment Size and Use

Discrepancies in acreage existed on many of the allotments. The park acres under permit in 1997 are not necessarily the same as what the permittees actually use today, and in some cases have been using for many years. In the case of the Green allotment, it appears that poor communication resulted in poor mapping of acreage. All portions of the permitted allotments are not used either because of landslide areas near the shoreline, topography, or vegetation type. In one case the allotment is used as an avenue or trail to access a watering area on private land (Esvelt, 2003). In another case, the allotment is grazed by livestock "to control noxious weed spread onto private land (Eckman, 2003)." Many of the plans developed by contractors in 2002/2003 for the grazing permittees were based on both park and private lands combined. The following park allotment acres are based on the best available information. SC = Spring Canyon, KF = Kettle Falls.

According to NPS 1997 Permits		**According to 2002/2003 Permittee Plans**	
Coffman	35 acres – SC district	Coffman	35 acres – SC district
Eckman	77 acres – KF district	Eckman	14.3 acres – KF district
Esvelt	9 acres – KF district	Esvelt	9 acres – KF district
Gifford	44 acres – KF district	Gifford	44 acres – KF district
Green	126 acres – SC district	Green	225 acres – SC district
Henslee	75 acres – KF district	Henslee	59 acres – KF district
Rosenberg	278 acres – SC district	Rosenberg	291 acres – SC district
	644 total NPS acres		**677.3 total NPS acres**

6.3 Number and Type of Livestock

The number and type of livestock as written in the 1997 special use permits and what the permittees practice today are not the same in many cases. In the Kettle Falls District a permittee no longer has sheep. A permittee in the Spring Canyon district sold all the cattle and did not graze for a couple years. In the case of the Rosenberg allotment, poor communication resulted in lower cattle numbers recorded on the special use permit for many years. Each NPS allotment has not been assessed or monitored to determine if the vegetation, soils, water resources, cultural resources, and wildlife habitat can sustain current livestock numbers.

According to NPS 1997 Permits		**According to 2002/2003 Permittee Plans**	
Coffman	20 cattle – SC district	Coffman	15 cattle – SC district
Eckman	28 cattle – KF district	Eckman	64 cattle – KF district
Esvelt	28 cattle – KF district	Esvelt	23 cattle – KF district
Gifford	20 cattle – KF district	Gifford	10 cattle – KF district
Green	50 cattle – SC district	Green	50-55 cattle – SC district
Henslee	21 sheep,8 horses,7 llamas–KF district	Henslee	8 horses , 7 llamas– KF district
Rosenberg	20 cattle – SC district	Rosenberg	65-70 cattle – SC district
	202 livestock total		**Approx. 242 - 252 livestock total**

6.4 Resources Affected

6.4.1 Water Resources (Quality and Access)

Quality

Surface water resources include Lake Roosevelt, springs and seeps, intermittent and perennial streams, wetlands, and two major rivers that flow into Lake Roosevelt, the Spokane and Kettle Rivers.
All surface waters within Lake Roosevelt NRA are classified by the State Department of Ecology as Class AA, extraordinary (Washington State Dept. of Ecology, 1997). Class AA waters receive the maximum protection level under state water quality regulations. The quality of these waters shall markedly and uniformly exceed the requirements for all or substantially all uses. Characteristic uses designated for Class AA waters include, but are not limited to:

- Water supply for domestic, industrial and agricultural uses;
- Stock watering;
- Fish and shellfish (including migration, rearing, spawning, and harvesting);
- Wildlife habitat; and
- Recreation (primary contact recreation, sport fishing, boating and aesthetic enjoyment).

Lake Roosevelt National Recreation Area waters are designated as outstanding resource waters. The Anti-degradation Policy of Washington State says "that water quality shall be maintained and protected in waters designated as outstanding resource waters" (Washington State Dept. of Ecology, 1997).

Various water quality criteria have been established for Class AA waters, one of which includes: "Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste." (Washington State Dept. of Ecology, 1997). Because livestock are not native or wildlife, they are not considered of natural origin. Although the park waters are designated by the state as an "outstanding resource," they may not meet anti-degradation standards. More research and monitoring are needed to determine whether Lake Roosevelt waters meet Class AA and outstanding resource standards.

In 1997, according to several studies, the water quality in Lake Roosevelt was generally considered poor due to point and nonpoint sources of pollution (NPS, 1997). The lake is a repository for a wide range of organic and inorganic pollutants from the United States and Canada. The two main sources of point source pollution have been the Cominco lead/zinc smelter in Trail, British Columbia and the Celgar Pulp Mill in Castelgar, British Columbia (NPS, 2000a).

Although heavy metals such as mercury, zinc, lead, cadmium, and copper contamination in Lake Roosevelt is a major concern, livestock use if improperly managed can affect water quality criteria such as temperature, dissolved oxygen, and fecal coliform bacteria. Manure contains high concentrations of bacteria, nutrients and organic matter. These elements are considered pollutants when they enter streams, lakes, or wetlands. (Washington State Dept. of Ecology, 2001).

Water pollution caused by activities such as grazing is classified as nonpoint source pollution and is defined as water pollution caused by rainfall or snowmelt moving over and through the ground and carrying natural and human-made pollutants into lakes, rivers, streams, wetlands, and groundwater. The Federal Water Pollution Control Act as amended in 2002 requires states to "control nonpoint sources of pollution which are contributing to water quality degradation in lakes." Washington's Nonpoint Source Management Plan identifies as an action required to "evaluate impacts of grazing on water quality in

Washington" (Washington State Dept. of Ecology, 2000). Livestock management actions proposed in this plan are to be coordinated with the Washington State Department of Ecology and ensure they are in agreement with the State's Nonpoint Source Management Plan.

Access

The Coffman, Green, and Rosenberg allotments in the Spring Canyon District all access Lake Roosevelt and stream tributaries for watering purposes. The Eckman allotment in the Kettle Falls District also has access to Lake Roosevelt. In the process of accessing and drinking water, removal of native vegetation through hoof action along shorelines, stream and lake banks, and stream/lake confluences may occur, which can potentially cause soil erosion, impact water quality, and damage cultural resources particularly during water draw downs. Feces deposited in these areas may also impact natural resources and visitor experiences. Manure in and adjacent to these water sources has been observed and documented. Trail braiding to water sources and livestock use down steep lake banks also has been documented.

Washington State's water laws related to livestock watering include the 1917 Surface Water Code and the 1945 Ground Water Code. Documentation from the Washington State Department of Ecology describes A.R. and C. Rosenberg as the only permittees who filed water right claims to Lake Roosevelt (the Columbia River) prior to 1917 for the purpose of watering livestock (Washington State Dept. of Ecology, 2003). A water right claim is a statement by the property owner regarding a water use not authorized by a permit or certificate. The filing of a water right claim does not necessarily constitute a water right. A water right permit or certificate is required for all uses of surface water (lakes, ponds, rivers, streams or springs). A claim may present a valid water right if it describes a surface water use that began before 1917 or a ground water use that began before 1945, and water use has been continuous (Washington State Dept. of Ecology, 1998). A water right is not necessary for ground water use of less than 5,000 gallons per day for stockwatering purposes. The Rosenbergs have two water right claims with priority dates of 1900 and 1911 for stock watering purposes on Lake Roosevelt that are within the 1997 permitted allotments. The Rosenbergs also filed six other claims for springs in or near the grazing allotments for livestock watering purposes with all except one having known priority dates before 1917. None of the above claims are adjudicated rights. This information was gathered from the Washington State Department of Ecology Eastern Regional Office in Spokane, Washington.

It is important to note that although the Rosenbergs have water right claims for livestock watering purposes along Lake Roosevelt and springs that may lie within the park boundary, environmental laws and policies still apply regarding the protection of natural and cultural resources. There are no records on file with the Department of Ecology for water use claims in tributary streams of the Columbia River/Lake Roosevelt within the park. Livestock access these tributaries as well.

The Torrison vs. Baker, et al. court decision regarding water rights within Lake Roosevelt NRA is summarized below. It is not clear if this court decision would apply to the claims mentioned above. The boundaries of Lake Roosevelt NRA extend from the middle of the original riverbed to 1310 feet in most areas, and in some areas up to ½ mile upland. No private lands are within the NPS grazing allotments. The private grazing lands adjacent to the NPS allotments are located above the 1290 feet high water mark of Lake Roosevelt.

- The State of Washington was admitted to the Union in 1889. At that point, the State assumed sovereignty over the beds of navigable waters within its boundaries.
- Since the Columbia River was navigable water, the riverbed became State property.
- The State claimed ownership over all submerged lands in navigable waters up to and including the line of ordinary high water.

- The declaration of State ownership divested upland owners of all riparian rights, including the right of access to deep water. (U.S. District Court, 2000)

The Columbia Basin Project Act of 1937 and subsequent amendments define irrigation blocks for farming and agriculture. There are no irrigation districts defined for the area north of Grand Coulee Dam (Honey, 2003). All of Lake Roosevelt NRA is north of Grand Coulee Dam, including the NPS livestock allotments. This does not mean that historic farming and agriculture use can't occur outside of the 1937 Act irrigation districts. The National Park Service's management responsibility lies within the recreation zone of the Lake Roosevelt Management Area. The Bureau of Reclamation has exclusive jurisdiction within the reclamation zone and management responsibility for Columbia Basin Project purposes (Lake Roosevelt Cooperative Management Agreement, 1990).

6.4.2 Noxious Weeds

A scientific report documented that cattle and sheep grazing are major causes of weed invasions in the arid West. This happens through livestock physically spreading seed, weakening native plants by grazing and trampling, preferring native forage to weed species, and disturbing the soil surface (Belsky, A.J. and J.L. Gelbard, 2000). The park does recognize other historic non-conforming land uses such as mining, agriculture, and off-road driving that contribute to the establishment and spread of invasive exotic plants. Noxious weeds may also spread into the park unintentionally through park visitor use and from adjacent lands. The focus of this plan is to address long-term cumulative impacts from livestock practices.

Historically, control efforts by Lake Roosevelt NRA have been chemical and mechanical. Priority areas of concern or species of concern within the allotments have not been determined. There are two small areas within the Spring Canyon District grazing allotments that have historically been spot prayed. Herbicides used include Weedar 64, Escort, and Sylgard 309. Approximately 19 acres in the Rosenberg (Shaw/Neal Canyon) allotment, and 39 acres in the Green allotment have been treated. The Lake Roosevelt NRA Maintenance Division conducts the application of these herbicides. Species targeted are spotted knapweed, diffuse knapweed, dalmation toadflax, mullein, Canada thistle, and Russian thistle. Some permittees have performed mechanical and biological controls on the allotments in the past, but no control efforts were reported or coordinated with the park. All permittees have expressed interest in helping control noxious weeds on parklands. Some permittees are currently State certified applicators and apply herbicides on their own property.

Lincoln and Stevens Counties both have active weed control programs and would like the park to be more aggressive and coordinated in their control efforts. The park acknowledges the need for more weed control efforts, especially as related to livestock grazing use and is working towards meeting those requirements at the national, state and county levels. Both Stevens and Lincoln Counties have priority noxious weed lists. For livestock grazing purposes, the primary species of concern as identified by the permittees on the northern allotments are diffuse knapweed (*Centaurea diffusa*) and Houndstongue (*Cynoglossum officinale*). Diffuse knapweed is identified by Stevens County Weed Board as a proposed Class B designate, but because this species is widespread in much of the county, control is voluntary. Washington State identifies houndstongue as a Class B weed, which means control is mandatory. Stevens County identifies houndstongue as too widespread to list. The most widespread noxious weeds of livestock concern in the southern allotments are cheatgrass and tumble mustard which are too widespread to list on State or Lincoln County weed lists. The Green and Rosenberg allotments contain Dalmation toadflax which is a Class B designate in Lincoln County. Preventing infestations of this species is a high priority in areas where the species is not yet widespread.

In 2003 park staff surveyed ten acres on one allotment and found 25 introduced species. With more inventory and surveys, other noxious weed species may be identified on the allotments. The first

systematic mapping of exotic plants for the entire park began in 2003 with the cooperation of the University of Idaho. Approximately 10% of the park was surveyed, of which 14% contained exotic plants (University Idaho, 2003). The park received a set of digital maps and associated meta data for the areas surveyed. The survey data will be used to begin prioritizing areas for control using three management classes: a) isolated weed populations and/or weed species that spread quickly, b) areas that contain both large and isolated weed patches, and c) areas with widespread infestations of weeds. Funding was secured to continue this inventory and mapping project in 2005. Surveying in 2005 will include the allotments. Scoping efforts are underway to develop an Invasive Exotic Plant Management Plan and Environmental Assessment for the park.

There are two known regionally coordinated weed control efforts. One is the Quad County Weed Group, which includes Washington State University Cooperative Extension Service, Ferry, Okanogan, Stevens, and Pend Oreille Counties, and the Colville Reservation. The other is the Lake Roosevelt Forum-Weed Group composed of various Federal, State, and County representatives, including Lake Roosevelt NRA.

The Quad County/Colville Reservation Bioagent Project has begun implementing an effort to control noxious weeds through the application of biological control agents. There are a number of species that currently have biological control agents certified for release in the United States. Some of these species that are of concern within the grazing allotments include: diffuse knapweed, spotted knapweed, dalmation toadflax, and Canada thistle. The park is currently working with the Washington State Extension Office and participating in the bioagent project. The park has identified test plots that meet the project requirements for dalmation toadflax in the south and diffuse and spotted knapweed in the north. Two allotments are currently in this program, Henslee and Gifford. More allotments may come into the program in the future. The research project will be evaluated at the end of five years.

6.4.3 Soils

The ecological processes of the soil (abiotic) ecosystem, which includes surface cover, microbial populations, soil nutrient cycling and physical/chemical transformations, are critical to the protection of scientific processes, vegetation growth and cover over the landscape and shoreline, and the scenic viewshed within Lake Roosevelt NRA.

In June, 2004 an interdisciplinary team with expertise in wetland and riparian ecology, hydrology, stream geomorphology, soils, geology, and vegetation assessed the condition of riparian, wetland, and upland rangelands within the Rosenberg, Green, Henslee, and Eckman allotments. For upland rangeland assessments, the team used the BLM's "Interpreting Indicators of Rangeland Health" (BLM, 2000). This method uses professional evaluations of soil/site stability, hydrologic function, and biotic integrity attributes to assess rangeland health. A final report from this assessment is forthcoming.

The information in Table 5 comes from the Soil Conservation Service, U.S. Department of Agriculture Soil Surveys for Lincoln County 1981 and Stevens County 1982. These are general descriptions for each county and are not necessarily site specific. Some allotments may not represent all the soil description due in part to human induced changes over time.

Table 5. Soil Descriptions

Allotment	Description of Soils (County wide information)
Henslee (T38N, R37E) Stevens County	The majority of the allotment is classified as Bisbee loamy fine sand, 0-15% slopes. The permeability of this soil is rapid, available water capacity is moderate, effective rooting depth is 60 inches or more, runoff is medium, hazard of water erosion is moderate, and wind erosion hazard is high. Wethey loamy sand, 0-3% slope is also represented. This is a very deep, poorly drained soil on bottomlands, flood plains, alluvial fans, and depression areas (a wetland). Phoebe sandy loam, 0-5% slope soils are found on the northern portion of the allotment. Permeability of this soil is moderately rapid, available water capacity is high, effective rooting depth is 60 inches or more, runoff is very slow, no hazard of water erosion, but wind erosion is high. The southwestern portion of the allotment is classified as Springdale gravelly sandy loam, 0-15% slopes. This soil is very deep and somewhat excessively drained on terraces.
Eckman (T37N, R37E) Stevens County	A large portion of this allotment is classified as Bisbee loamy fine sand, 25-45% slopes. The permeability is rapid, available water capacity is moderate, effective rooting depth is 60 inches or more, runoff is rapid, and water and wind erosion is high. The other portion of the allotment is Peone silt loam, 0-3% slope. This soil is very deep, poorly drained on alluvial fans, bottom lands, around lake perimeters and in depression areas (wetland). Permeability is moderate, available water capacity high, effective rooting depth is limited by a seasonal high water table at a depth of .5 feet to 1.5 feet between February and May.
Esvelt (T34N, R37E) Stevens County	Much of the area is Cedonia silt loam, 5-15% slopes. The soil is very deep and well drained on terraces. Permeability is moderately slow, available water capacity is high, effective rooting depth is 60 inches or more, runoff is medium, and water erosion hazard is moderate. The remainder of the allotment is Cedonia silt loam, 30-65% slopes. The soil is very deep and well drained on terrace escarpments. Permeability is moderately slow, available water capacity is very high, effective rooting depth is 60 inches or more, runoff is very rapid, and water erosion is very high.
Gifford (T32N, R37E) Stevens County	The area is all classified as Cedonia silt loam, 5-15% slopes as described above in Esvelt.
Coffman (T28N, R33E) Lincoln County	The area is dominated by the Ewall loamy sand, 0-15% slopes. Soil permeability is very rapid, available water capacity low, effective rooting depth 60 inches or more, surface runoff is slow as is erosion, but wind erosion is high.
Green (T28N, R32E) Lincoln County	The area is classified as Ewall loamy sand, 0-15% slopes as described above in Coffman. The eastern end of the allotment is classified as Conconully very stony fine sandy loam, 25-55% slopes. Soil permeability is moderately rapid, available water capacity is moderate, effective rooting depth is 60 inches or more, surface runoff is rapid, and erosion hazard is high.
Rosenberg (Spring Canyon) (T28N, R31E) Lincoln County	The western end of the allotment is dominated by Ewall loamy sand, 15-35% slopes. Soil permeability is very rapid, available water capacity low, effective rooting depth 60 inches or more, surface runoff is slow as is erosion, but wind erosion hazard is high. The other half of the western portion contains a large portion of rock outcrop. Much of the remainder of the allotment is classified as Riverwash (sandy, very gravelly and very cobbly). A small segment of the allotment is Nespelem silt loam, 15-35% slopes. Soil permeability is moderately slow, available water capacity is high, effective rooting depth is 60 inches or more, surface runoff is rapid, and erosion hazard is high.
Rosenberg (Shaw/Neal Canyon) (T28N, R32E) Lincoln County	The far western end of the allotment is rock outcrop. Moving east, the next section is Nespelem silt loam, 3-15% slopes. The next large section is Ewall loamy sand, 35-55% slopes. This is a very deep excessively drained soil, permeability is very rapid, available water capacity is low, effective rooting depth is 60 inchesor more, surface runoff is medium, water erosion hazard is moderate, and wind erosion is high. The remainder of the allotment is dominated by Ewall loamy sand, 0-15% slopes and 15-35% slopes, and Conconully very stony fine sandy loam, 25-55% slopes.

6.4.4 Geology and Shoreline Landslide

The park lies within the Okanogan Highlands physiographic province to the north, the Columbia Basin province to the south, and the Kootenay Arc to the east, which have been sculpted by the Ice Age Floods. The description for most of this section comes from the U.S. Bureau of Reclamation 2000 Landslide Inspection Report for the Lake Roosevelt Reservoir Shoreline. During the Pleistocene Epoch, ice lobes pushed southward from the Cordilleran continental glacier in British Columbia into eastern Washington, Idaho, and western Montana. Three of the lobes entered the present reservoir area: The Okanogan lobe, which dammed the Columbia River more than once and created glacial Lake Columbia, the Sanpoil lobe, and the Columbia lobe. The major portion of the reservoir banks are composed of lake, glacial, stream, and flood sediments deposited during the time of ice invasion and recession. Sequential layers of clay, silt and sand, capped with alluvial sand and gravel, compose approximately 90 percent of the reservoir shoreline. The remainder is composed of glacial till, volcanic, granitic, sedimentary, and metamorphic rocks. The upland portions of the park are narrow strips of land, ½ mile wide at most.

Topography along the shoreline includes stream cut terraces that have been modified by erosion, alluvial fan deposition, and landsliding. Several factors influence the slope of the terrace and also determine the susceptibility to sliding, such as the type of sediment composing the terrace and the local groundwater conditions. Wet silt and clay tend to be weak and are subject to landsliding and creep which causes a slope to be more gentle. Dramatic climatic events and human influences such as rapid reservoir drawdown, road construction, and grazing to a lesser extent are other conditions present along the lake which tend to reduce bank stability. Figures 4 and 5 depict current slide areas within the allotments.

6.4.5 Vegetation

Vegetation provides the basis for wildlife habitat, and produces the necessary forage for livestock. Healthy vegetation (with adequate cover and composition) inhibits soil erosion, maintains high water quality, regulates water quantity, and maintains the nutrient cycling essential for both plant and animal life. Native vegetation is of great scientific value, provides cover over the landscape, a scenic shoreline, and recreation opportunities for park visitors.

Lake Roosevelt National Recreation Area stretches some 131 miles north to south with a wide range in vegetation communities and precipitation. The Kettle Falls District is composed primarily of forested communities including ponderosa pine and Douglas fir with an average annual precipitation of 17 inches. Vegetation in the Spring Canyon District is composed primarily of semiarid grasses, sagebrush, and bitterbrush (shrub-steppe community) with an average annual precipitation of 7-10 inches.

Although an extensive inventory of the park's vegetation is not complete, surveys were conducted within the grazing allotments in 2002 and 2003 by park staff, and a range specialist from the Natural Resource Conservation Service. Many species on the allotments are introduced grasses or weeds. Table 6 provides a brief summary (partial list) of the vegetation identified during the 2002/2003 surveys.

Table 6. Summary of Vegetation Survey Results on Grazing Allotments (2002-2003) (Site specific information)

Allotment	Summary of Vegetation Present
Henslee	Idaho fescue, bluebunch wheatgrass, orchardgrass, quackgrass, Kentucky bluegrass, bulbous bluegrass, millet, storksbill, annual forbs, cheatgrass, arrowleaf balsamroot, silky lupine, common yarrow, perennial forbs, diffuse knapweed, goatweed, spring beauty, miners lettuce, hawthorne, willows, and cottonwoods. (Approx. 40 ac. surveyed, plant species reports incomplete)
Eckman	Quackgrass, Kentucky bluegrass, orchardgrass, alfalfa, mullein, Canada thistle, native shrubs, wyeth buckwheat, common snowberry, bluebunch wheatgrass, Idaho fescue, rough fescue, other perennial grasses, cheatgrass, Japanese brome, lupine, arrowleaf balsamroot, jim hill mustard, annual sunflower, yarrow, Indian ricegrass, needle-and-thread grass, sandberg bluegrass, bulbous bluegrass, burdock, diffuse knapweed, Russian knapweed, Canada thistle, bull thistle, houndstongue, dalmation toadflax, common toadflax, sulfur cinquefoil, spike trisetum, serviceberry, chokecherry, and rose. (Approx. 25 sp. introduced, 66 sp. identified, and approx. 10 ac. surveyed)
Esvelt	Pinegrass, bulbous bluegrass, cheatgrass, diffuse knapweed, jim hill mustard, tumble mustard, common yarrow, perennial forbs, common snowberry, white spirea, catnip, tansy, serviceberry, chokecherry, rose, oceanspray, mullein, balsam root, sulfur cinquefoil, and Oregon grape. (9 sp. introduced, 20 sp. identified, and 9 ac. surveyed)
Gifford	Intermediate wheatgrass, Japanese brome, cheatgrass, alfalfa, China lettuce, sulfur cinquefoil, diffuse knapweed, mullein, absynth wormwood, bull thistle, bluebunch wheatgrass, Idaho fescue, rough fescue, Kentucky bluegrass, orchardgrass, lupine, penstemon, arrowleaf balsamroot, ponderosa pine, wyeth buckwheat, common snowberry, rose, dandelion, daffodils, iris, strawberry, and wayside gromwell. (At least 7 sp. introduced, approx. 40 sp identified, and approx. 32 acres surveyed)
Coffman	Crested wheatgrass, rabbitbrush, willow, elm, red osier dogwood, cottonwood, serviceberry, bitterbrush, yarrow, diffuse knapweed, asparagus, Dalmation toadflax, needle-and-thread, hairy vetch, bluebunch wheatgrass, cheatgrass, wild oat, rush, horsetail, and others. (24 sp. introduced, 73 sp. identified, approx. 40 ac. surveyed)
Green	Bluebunch wheatgrass, needle and thread, sand drop-seed, three-awn, Idaho fescue, bitterbrush, big sagebrush, three-tipped sagebrush, gray rabbitbrush, green rabbitbrush, wild rose, prickly pear cactus, horsetail(s), lupine, yarrow, cheat grass, Japanese brome, tumble mustard, diffuse knapweed, sagewort, Mackenzie willow, cottonwood. (23 sp. introduced, 131 sp. identified, approx. 60 ac. Surveyed)
Rosenberg (Spring Canyon)	Bitterbrush, gray rabbitbrush, wild rose, prickly pear cactus, various buckwheats, needle and thread, sand drop-seed, bluebunch wheatgrass, three-awn, spring beauty, big sage, yellow bell, cheatgrass, ceanothus, arrowleaf balsam root, buttercup, syringa, yarrow, serviceberry, diffuse knapweed, russian thistle, mullein, horsetail, lupine, bulbous bluegrass, and tumble mustard. (4 sp. introduced, 28 sp. identified, approx. 30 ac. surveyed)
Rosenberg (Shaw/Neal Canyon)	Cheatgrass, bitterbrush, rabbitbrush, bluebunch wheatgrass, needle and thread, big sagebrush, and three-tipped sagebrush. (17 sp. introduced, 84 sp. identified, approx. 20 ac. surveyed)

6.4.6 Special Status Plants

Initial surveys on the allotments have found several sites in the Green allotment containing a State listed sensitive species, Palouse milk-vetch (*Astragalus arrectus)*. A patch of Nuttall's pussytoes (*Antennaria parvifolia)* was identified directly adjacent to the Esvelt allotment on private land (NPS Survey, 2003). *Antennaria parvifolia* is a State listed sensitive species. Two other species of concern have been identified by the Washington Natural Heritage Program-March 2003 as having habitat present along the shoreline of Lake Roosevelt and/or its tributaries and which lie adjacent to or within the allotments.

These species include the Columbia crazyweed (*Oxytropis campestris var. columbiana*), a State listed endangered species, and least bladdery milkvetch (*Astragalus microcystis*) a State listed sensitive species. The Ute ladies'-tresses (*Spiranthes diluvialis*) a federally listed threatened species may exist within any of the allotments. More field surveys are needed to determine presence or absence of these species or other listed special status plants within the allotments.

6.4.7 Wetlands

Executive Order 11990: Protection of Wetlands mandates Federal agencies to "… avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative …" The executive order established a mandate for the National Park Service and other Federal agencies to "… preserve and enhance the natural and beneficial values …" of wetlands and to minimize impacts to them when no practicable alternative to the proposed action exists.

The National Park Service Director's Order 77-1 (Wetland Protection) and Procedural Manual 77-1 (Wetland Protection) established the agency procedures/requirements for implementing the Executive Order. One such requirement includes preparation of a wetland Statement of Findings if an action will have new adverse impacts on wetlands, and to compensate (minimum 1:1 ratio) for such wetland impacts by restoring degraded wetlands.

The National Park Service Policies incorporated the Director's Order and Manual and state the following:

1. The Service will implement a policy of "no net loss of wetlands."
2. The Service will strive to achieve a long-term goal of net gain of wetlands through restoration of previously degraded or destroyed wetlands.
3. When natural wetland characteristics or functions have been degraded or lost due to previous or on-going human actions, the Service will, to the extent practicable, restore them to pre-disturbance conditions" (NPS, 2001c).

Wetlands in the park are found in association with the Lake Roosevelt shoreline, rivers, streams, springs, wet meadows. Wetlands are significant resources and are found throughout much of the park. The lake level is controlled by the Grand Coulee Dam. At full pool, the reservoir surface covers about 81,000 acres with more than 500 miles of shoreline, of which 312 miles are administered by the National Park Service. Two major tributaries flow into the lake, the 30 mile long Spokane River and the 15 mile long Kettle River. There are many streams and springs within the park that harbor unique wetland vegetation communities and protection of these areas is of high importance.

The park recognizes that most allotments have sections of lake shoreline, confluences of tributary rivers and streams with the Columbia River (Lake Roosevelt), and other wetland areas that are accessible to livestock. Use in and near these sensitive resource areas is contributing to erosion, trampling of wetland vegetation, nutrient loading and algal growth, and creating bare ground and muddy areas.

Un-mapped and unevaluated wetlands are believed to occur within the Eckman, Esvelt, Green, and Rosenberg allotments. More surveys need to be conducted to identify and map any other possible wetland areas within the allotments. National Park Service Policies direct parks to conduct "more detailed wetland inventories in areas that are proposed for development or are otherwise susceptible to degradation or loss due to human activities" (NPS, 2001c). The park's currently mapped wetland data is from the National Wetlands Inventory of 1987. The aerial photography was conducted in 1983 at a scale of 1:58,000.

In June, 2004 a group of interdisciplinary and interagency scientists conducted a "proper functioning condition assessment" of the physical and biotic conditions on wetland and riparian sites within the Rosenberg, Green, Henslee and Eckman allotments. For riparian areas the team used the BLM's "Proper Functioning Condition" methods (BLM, 1998, 1999). These methods use professional evaluations of hydrology, geomorphology, soils, and vegetation characteristics to classify sites as "functional," "functional – at risk," or "nonfunctional." For upland rangeland assessments, the team used the BLM's "Interpreting Indicators of Rangeland Health" (BLM, 2000). This method uses professional evaluations of soil/site stability, hydrologic function, and biotic integrity attributes to assess rangeland health.

The interdisciplinary team conducted wetland delineation evaluation on the Henslee allotment, and it was determined that no wetlands exist. Preliminary findings determined that the stream surveyed east of Neal Canyon within the Rosenberg allotment was functional at the upper reach and functional-at risk in the lower reach. The surveyed riparian reach of Kaufman Canyon within the Green allotment was functional. The stream surveyed within the Eckman allotment was found to be non-functional (stream was incised, head-cutting up the channel, former wetland areas were dry and providing an environment for invasive exotic plant species to establish). It was recognized that some of the channel incision was due to lake level flucuations. A final report of findings on all the allotments is forthcoming.

Table 7. Summary of 2002-2003 Vegetation Surveys (Wetland Association Species List)

Allotment	Scientific Name	Common Name	Indicator*
Henslee (Approx. 50% allotment surveyed, plant species report not complete. Large non-evaluated wetland not surveyed).	Salix sp. Poa pratensis Crataegus sp. Montia sp. Populus sp.	Willow, unspecified Kentucky bluegrass Hawthorne, unspecified Miner's lettuce Cottonwood, unspecified	Unknown FAC Unknown Unknown Unknown
Eckman (Approx. 12% allotment surveyed, 31 wetland/potential species)	Poa pratensis Alnus sp. Betula sp. Thuja plicata Impatiens sp. Carex sp. Equisetum sp.	Kentucky bluegrass Alder, unspecified Birch, unspecified Western red cedar Touch-me-not/jewelweed Sedge, unspecified Horsetail, un specified	FAC Unknown Unknown FAC FACW Possible OBL Possible OBL
Esvelt (Entire allotment surveyed, but plant species report not complete. Contains non-evaluated wetlands.)	Tanacetum vulgare	Tansy	NI
Gifford (Most of allotment surveyed, but plant species report not complete)	Poa pratensis Lupinus sp.	Kentucky bluegrass Lupine, unspecified	FAC Unknown
Coffman (Entire allotment surveyed. Approx. 20 wetland/ potential species)	Equisetum sp. Poa pratensis Rumex crispus Salix sp.	Horsetail, un specified Kentucky bluegrass Curly dock Willow, unspecified	Possible OBL FAC FAC+ Unknown
Green (Approx. 50% allotment surveyed, approx. 22 wetland/ potential species)	Salix rigida v. mackensieana Cornus stolonifera Equisetum sp. Typha latifolia	Mackenzie willow Red-osier dogwood Horsetail, un specified Cat-tail	Possible OBL FACW Possible OBL OBL

Rosenberg (Spring) (Approx. 80% allotment surveyed, 9 wetland spp)	Montia perfoliata Allium sp.	Miner's lettuce Onion, unspecified	Possible FACW Unknown
Rosenberg (Shaw/Neal) (Approx. 8% allotment surveyed, 27 wetland species)	Rumex crispus Carex lanuginosa Carex scopulorum Carex vulpinoidea Alopecurus carolinianus	Curly dock Wooly sedge Holm's Rocky Mtn. sedge Fox sedge Carolina foxtail	FAC+ OBL FACW OBL FAC+

*The indicator categories for the wetland species listed above are defined by the U.S. Fish and Wildlife Service, Biological Report 88(26.9) and 1993 updates for Region 9. The definitions are as follows:

Obligate Wetland (OBL). Occur almost always (estimated probability >99%) under natural conditions in wetlands.

Facultative Wetland (FACW). Usually occur in wetlands (estimated probability 67-99%), but occasionally found in nonwetlands.

Facultative (FAC). Equally likely to occur in wetlands or nonwetlands (estimated probability 34%-66%).

Facultative Upland (FACU). Usually occur in nonwetlands (estimated probability 67-99%), but occasionally found in wetlands (estimated probability 1%-33%).

The positive sign (+) indicates a frequency toward the higher end of the category (more frequently found in wetlands), and a negative sign (-) indicates a frequency toward the lower end of the category (less frequently found in wetlands).

6.4.8 Fish and Wildlife

National Park Service Livestock Management Policies state the following.

- Direct displacement, habitat loss or reduction, introduction of nonnative animals, and competition for food, water, and habitat are some of the adverse impacts livestock have on wildlife.
- Because rangelands support both wildlife and livestock, the relationship, compatibility, and potential conflict between wildlife and livestock need to be determined in order to effectively manage wildlife/livestock interactions.
- As residents and consumers of vegetation, wildlife as well as their habitat must be given priority consideration when determining livestock stocking rate, amount of use, season of use, fencing, water developments, and other management actions (NPS, 2002a).

Federal as well as State fish and wildlife laws and policies need to be considered when determining appropriate livestock management actions. The Natural Resource Conservation Service states that: "aquatic species are particularly vulnerable when riparian areas are grazed, as overgrazing can reduce streamside vegetation cover, resulting in higher water temperatures, cover loss, and increased sediment" (NRCS, 1997).

Fish

Lake Roosevelt and its tributaries in the National Recreation Area support a varied fish community that today is different from that in the early 1900s. Changes over time were caused by the introduction of non-native species, habitat alterations such as water pollution, the damming of rivers, and reservoir drawdowns. Today, there are possibly 28 native and 12 non-native species that inhabit the park's waters

(NPS, 2000a). Native species that currently occur in the park include, but are not limited to kokanee salmon (land-locked sockeye), rainbow trout, white sturgeon, burbot, whitefish, minnow, sculpin, and sucker species. Introduced game fish species that occur in the park include brook trout, brown trout, walleye, yellow perch, largemouth bass, smallmouth bass, black crappie, white crappie, sunfish, and yellow bullhead. There are intermittent streams found within the allotments that likely have not been surveyed for fish species, thus it is not known what exists within these streams and wetland areas.

Wildlife

The park's wide range in vegetation communities provides habitat for a diversity of wildlife. More than 75 species of mammals, 200 species of birds, 15 species of reptiles, and 10 species of amphibians may occur throughout the park. Common large mammals that occur in the allotments include mountain lion, bear, coyote, whitetail deer, mule deer, and elk. Small mammals that occur in the allotments include, but are not limited to mice, marmots, badgers, porcupines, and tree squirrels. Lake Roosevelt is within the Pacific Flyway and serves as a resting area during migration periods. Several species of raptors nest, roost, and forage in the area including osprey, golden eagle, bald eagle, prairie falcon, red-tailed hawk, Northern harrier, and American kestrel. Resident and migratory birds in the area include waterfowl, shorebirds, gallinaceous birds, pigeons, woodpeckers, hummingbirds and passerines.

Species of Concern

Although complete surveys on the allotments for species of concern have not been conducted, a vertebrate inventory was conducted in 2003 through a cooperative agreement with the University of Idaho. Table 8 lists species of concern that have documented observations and known habitat distribution within the Lake Roosevelt/Upper Columbia River region. The Washington Department of Fish and Wildlife "Priority Habitats and Species Program" provides overall guidance to the park when determining best management practices for livestock activities within or adjacent to priority habitats.

The native bull trout is not believed to reproduce or live in Lake Roosevelt according to Spokane Indian Tribal Fisheries Biologists (NPS, 2003d). Approximately three bull trout have been collected in Lake Roosevelt over the last 15 years of intensive fish surveys. It is believed that bull trout found are isolated counts that may have come from upstream sources during high runoff years.

The Henslee allotment is known to have a bald eagle nest along the Kettle River. The bald eagle is a Federal and State listed threatened species. Bald eagle habitat is also present elsewhere along the Lake Roosevelt shoreline. Surveys are conducted yearly for bald eagles by park staff. In 1984, RCW 77.12.655 was passed by the Washington State Legislature. This law requires the establishment of rules defining buffer zones around bald eagle nest and roost sites. The law states that the rules shall take into account the need for variation of the extent of the zone from case to case. In 1986, the Bald Eagle Protection Rules, WAC 232-12-292, were adopted by the Wildlife Commission. The Lake Roosevelt NRA Livestock Management Plan will comply with standards identified in the State's Bald Eagle Management Plan.

The Columbia spotted frog has known distribution in Lincoln and Stevens Counties. The Sagebrush lizard and Striped whipsnake both have known distributions in Lincoln County. The Columbia spotted frog is being monitored in Washington due to the decline of the species in other states. The State Department of Natural Resources (DNR) identifies the need for research on the impact livestock grazing has on the spotted frog populations. The State DNR goes on to define threats and management concerns as follows.

> "Human induced changes in hydrology, water quality and wetland integrity is the major threat to this species. Nonnative fish and bullfrogs are also a potential threat to the spotted frog. Beaver

maintain a wetland habitat mosaic that is important for this species; beaver removal may be detrimental. Successional changes in vegetation may also threaten this species, but are unstudied" (Washington Natural Heritage Program, 2002).

The pygmy rabbit, endangered in Washington, is always found in association with dense stands of sagebrush or rabbitbrush. It eats mainly sagebrush. Its population status within the park is not known, but habitat is present. The gray wolf, a federally listed threatened species historically occurred within the allotments, but there have not been any recent confirmed sightings. The grizzly bear, also a federally listed threatened species has potential range limits within the Henslee and Eckman allotments, but there are no recent confirmed sightings.

Table 8. Species of Concern as of February, 2004

Scientific Name	Common Name	Federal Status	State Status
Oncorhynchus tshawytscha	Chinook salmon (Upper Columbia)	Endangered	Candidate
Oncorhynchus mykiss	Steelhead (Upper Columbia)	Endangered	Candidate
Salvelinus confluentus	Bull trout (Columbia Basin)	Threatened	Candidate
Rana luteiventris	Columbia spotted frog	Sp of Concern	Candidate
Sceloporus graciosus	Sagebrush lizard	Sp of Concern	Candidate
Masticophis taeniatus	Striped whipsnake	None	Candidate
Gavia immer	Common loon	None	Sensitive
Aechmophorus occidentalis	Western grebe	None	Candidate
Aquila chrysaetos	Golden eagle	None	Candidate
Haliaeetus leucocephalus	Bald eagle	Threatened	Threatened
Falco peregrinus	Peregrine falcon	Sp of Concern	Sensitive
Pelecanus erythrorhynchos	American white pelican	None	Endangered
Accipiter gentiles	Northern goshawk	Sp. of Concern	Candidate
Buteo regalis	Ferruginous hawk	Sp. of Concern	Threatened
Falco columbarius	Merlin	None	Candidate
Chaetura vauxi	Vaux's swift	None	Candidate
Melanerpes lewis	Lewis' woodpecker	None	Candidate
Picoides albolarvatus	White-headed woodpecker	None	Candidate
Dryocopus pileatus	Pileated woodpecker	None	Candidate
Oreoscoptes montanus	Sage thrasher	None	Candidate
Brachylagus Idahoensis	Pygmy rabbit	Endangered	Endangered
Lepus townsendii	White-tailed jack rabbit	None	Candidate
Canis lupus	Gray wolf	Threatened	Endangered
Ursus arctos	Grizzly bear	Threatened	Endangered

Source: Washington Dept. of Fish and Wildlife, http://wdfw.wa.gov/wlm/diversty/soc/soc.htm

6.4.9 Cultural Resources

Cultural resources are non-renewable, thus are to be managed in a non-consumptive manner. Once an archeological site or other cultural feature is destroyed, it is gone forever. It is imperative that livestock practices avoid or minimize adverse effects on cultural resources.

Archaic

The park contains a large section of the Upper Columbia River and a record of continuous human occupation dating back more than 9,000 years. Traditional Native American ways of life changed dramatically with development of the Grand Coulee Dam and subsequent inundation of the Columbia

River. Villages were flooded and one of the primary food sources, anadromous salmon, was lost. One of the main fishing and gathering places was at Kettle Falls, now within the park. More than 400 documented ethnographic sites have been identified in the Lake Roosevelt area. About 80% of the park above the 1290' level has been archeologically surveyed. Approximately 200 sites have been identified. Preliminary survey on the Henslee allotment reveals a potential pre-historic site.

Historic

Preliminary surveys on the Gifford allotment in the spring of 2003 found several structural features and artifact dumps dating to the 1940s-50s and perhaps earlier. Although there are domestic structural features within the allotment, most of the features appear to be part of a sawmill operation of the WPA era. Two historic sites have been previously recorded in the Green allotment (Larabbee and Kardas, 1966). Site 45LI19H consists of the remains of a structure, a root cellar, and an artifact scatter. The root cellar, which is located on the adjacent Green private property, has been recently bulldozed by the landowner (DePuydt, 2003). Prehistoric artifacts may also exist in this area. Site 45LI249, which is located on the opposite side of a draw from 45LI19H, also contains the remains of a foundation, a cellar, and an artifact scatter.

The park archeologist and an archeological technician have surveyed in part the remaining allotments. Cultural resource survey reports and Assessment of Effect documents will be completed following the National Historic Preservation Act and associated regulations. Consultation with the Colville Confederated Tribe of Indians and the Spokane Tribe of Indians is ongoing, including the request by the Colville Tribe for the collection of more information on the Gifford site.

Plants of Cultural Importance

A complete survey of culturally important plants has not been conducted. Preliminary information is described as follows. Edible fruit producing plants known to occur within the allotments include serviceberry, chokecherry, hawthorn, and rose. Root crop plants that occur within the allotments include arrowleaf balsamroot and spring beauty. Roots, leaves, and seeds of these plants are a traditionally important food and medicine used by indigenous peoples. The entire Columbia River and adjacent lands were traditional use areas for Native American populations. It is assumed that the allotments are within historic root digging and seed collecting grounds, but it is not known whether tribes currently collect culturally significant plants within the allotments. No park collecting permits have been issued in the recent past for plants and any plant parts for the purposes of Native American use.

6.4.10 Recreation and Shoreline

Recreation

One of the main purposes of the park is to "provide opportunities for diverse, safe, quality, outdoor recreational experiences for the public" (NPS, 2000a). The park receives approximately 1.5 million visitors annually, most of which come during the summer months. Some of the recreation activities that visitors participate in include, but are not limited to fishing, swimming, boating, camping (in developed campgrounds, boat-in only campgrounds, and along the shoreline), birding, and sightseeing. The park's General Management Plan identifies desired future visitor experiences, some of which include the following:

- Gain an appreciation for the importance park natural and cultural resources have on quality of life.
- Recognize the impact visitor activities have on park natural resources and other visitors.
- Understand the reasons for protecting and managing the park's natural and cultural resources for future generations.

- Discern that the recreation area is a unit of the National Park System.

There is some concern in the Kettle Falls District allotments where visitors have left gates open, which provide livestock access to State Highway 25 posing a potential hazard to livestock, motor vehicle drivers and passengers. On some allotments in this District the timing of grazing is during May and June, which may conflict with visitor use. The Gifford allotment in the Kettle Falls District is just north of Cloverleaf Campground. Summer Island Boat-in Only Campground is near the Eckman allotment and is accessible to livestock during low water periods. The island is receiving heavy livestock use evidenced by overgrazed and tramped vegetation, large quantities of manure, soil compaction and mud bogs. The Henslee allotment does not have any park recreation facilities nearby, but the Kettle River does receive visitor use by kayakers and canoeists.

Table 3. describes the management areas as identified in the park's General Management Plan. The Coffman and Rosenberg – Spring Canyon allotments are located adjacent to or within viewing distance of high visitor use areas (day use, boating, fishing, camping and the Keller Ferry and Spring Canyon Campgrounds). The Green and Rosenberg – Shaw/Neal Canyon allotments are in areas where long stretches of beaches occur providing potential day use or camping opportunities. In all of these allotments livestock access the lakeshore for watering. Wherever there is a nice beach within the allotments, there is potential for recreation opportunities, either day use or overnight camping.

Shoreline

The shoreline is the most valuable resource, other than the lake itself, for recreational purposes. This area provides recreational opportunities such as camping, fishing, walking, swimming, and boat use/moorage. The shorelands are a narrow band (½ mile at most) of land above the maximum high-water mark (which is 1,290 feet). One of the intrinsic values that the park wishes to protect is the extensive amount (312 miles) of publicly owned shoreline that is available for public use.

The allotments cover approximately 14 miles of shoreline within Lake Roosevelt NRA. Stevens and Lincoln Counties both have Shoreline Management Programs as directed by the Washington Shoreline Management Act of 1971. The basic policy or intent of the Act is to "provide for the management of the shorelines of the State by planning for and fostering all reasonable and appropriate uses of the State's shorelines" (Lincoln County, 1997). The Shoreline Management Act, Chapter 90.58.RCW applies to Lake Roosevelt and all its streams with a mean annual flow greater than 20 cubic feet per second. It applies to land extending landward 200 feet from ordinary high-water mark on these waters and to all land underlying these waters. It also applies to associated marshes, bogs, swamps, floodways, river deltas, and flood plains associated with said streams.

The Stevens County Shoreline Management Master Program of 1995 defines preferences to uses which:

a. Recognize and protect the state-wide interest over local interest;
b. Preserve the natural character of the shoreline;
c. Result in long term over short term benefit;
d. Protect the resources and ecology of the shoreline;
e. Increase public access to publicly owned area of the shoreline;
f. Increase recreational opportunities for the public in the shoreline.

Chapter 4 of the Stevens County Shoreline Master Program defines the archeological and historical resources policy as: "Due to the limited and irreplaceable nature of the resource, public or private uses and activities should be encouraged to protect any site having historic, cultural, scientific or educational value as identified by the appropriate authorities." This statement applies to all shoreline areas within Lake Roosevelt NRA.

Chapter 6 of the Stevens County Shoreline Master Program of 1995 defines agriculture policies, which includes range management and practices. Some of the policies that apply to livestock management regardless of shoreline designation (rural or conservation) include the following under section 6.02.

- Appropriate range management techniques should be utilized to prevent adverse impacts to nearby water bodies and adverse effects on plant, fish and animal communities from fertilizer and pesticide application.
- Range management techniques, operations and control methods should protect the productivity of the land base by maintaining or improving soil quality and minimizing soil losses through erosion in accordance with applicable Soil Conservation Service (now NRCS) conservation practice guidelines and best management practices.
- Manure spreading should be conducted in a manner that prevents animal wastes from entering water bodies that are subject to the jurisdiction of this program.
- Animal feedlots, containment areas, or manure storage are prohibited in the shoreline area.

Archeological and agricultural policies identified in the Lincoln County Shoreline Master Program of 1997 are very similar to those defined above.

6.4.11 Socio-Economic

The animal unit months that each park allotment may support are very small with respect to providing any significant economic benefit to the permittees. Most of the permittees have significantly more private land than park land that is used for livestock grazing purposes. Many of the permittees have other income sources. The Henslee allotment is used primarily for recreational (personal enjoyment) purposes, as opposed to livestock production or as a cattle ranching business. Mr. Henslee does not manage sheep anymore due to the low market value (Henslee, 2003). The permittee on the Eckman allotment does not have livestock, but rather leases adjacent private land for grazing purposes (Eckman, 2003). The nine acre Esvelt allotment is used as an access route to a watering trough on private land. The Gifford allotment contains about half of the total acres used for grazing purposes by the permittee. The Coffman allotment is about one third the total acres used for grazing. Both the Green and Rosenberg permittees have approximately 1000 acres each of private land that is available and/or used for grazing purposes. It is recognized that the park allotments are not necessary for most permittee livestock operations, but are used primarily to access watering sources within the park or adjacent private lands. Permitting fees for all the allotments combined averaged a total of less than $500.00 per year for the past several years.

7.0 Environmental Consequences/Impact Analysis

Impairment

The Service may undertake actions that have both beneficial and adverse impacts on park resources and values. However, by the provisions of the laws governing the NPS, the Service is prohibited from taking or authorizing any action that would, or is likely to impair park resources or values (NPS, 2001c). The preferred alternative would not impair park resources or values.

Assumptions

Impact analysis was determined by evaluating the impacts each alternative would have on the current conditions of the affected environment described in section 6.0. To help analyze the impacts of each alternative, the following general assumptions were made.

- The NPS will have and/or acquire the funds and work force to implement the proposed alternative.
- All management actions will comply with appropriate laws, regulations and policies.
- The life of this plan is 10 years.
- Short term impacts would occur within five years.
- Long term impacts would occur more than five years after the plan is implemented.
- All impacts are long term unless otherwise noted.
- There are no unavoidable adverse impacts associated with the proposed alternative.
- Direct effects are caused by the activity and occur at the same time and place.
- Indirect effects are caused by the activity, but are later in time or further removed in distance.
- Most resource impact topics are related to each other and cumulative in nature, i.e. if an impact effects vegetation cover, it will effect soil stability, which will in turn effect water quality.
- Where data are limited, the analysis infers environmental consequences using knowledge of the area and professional expertise and judgment based on observation and analysis of conditions and responses in other areas.

7.1 Alternative 1: No Action

Water Quality

Under this alternative livestock would not be prevented from accessing the lake and its tributaries which would result in the following:

- Trampled banks and increased sediment load to the water.
- Removal of riparian vegetation causing flooding and erosion problems and increasing water temperature.
- Livestock would urinate and defecate in or near surface waters resulting in increased levels of nutrients and fecal coliform bacteria.

A monitoring program to evaluate livestock impacts on water quality would not be instituted. Class AA water quality criteria such as temperature, dissolved oxygen, and fecal coliform bacteria may not be met thus creating a distressing and potentially lethal environment for all aquatic life. Washington State antidegradation and aesthetic value standards would likely not be met. Washington's Nonpoint Source Pollution Plan would likely not be met.

Cumulative effects may occur because no actions would be taken to reduce or eliminate negative effects livestock use may have on water quality. Adjacent rangelands and sensitive riparian areas used by livestock over time may also impact water quality within the park through surface runoff and upland water sources that flow into the lake. Over time, impacts on other resource values such as soil stability and vegetation would also effect the water quality. It is inferred that impairment to the water quality resource may occur because of research conducted elsewhere on livestock use and associated impacts as discussed above and in Section 6.

Livestock use in and adjacent to water sources is not the only cause for water quality degradation, but it is a non-native, nonconforming use that is human induced and controllable. Under this alternative, management actions would not control or mitigate potential negative impacts to water quality in the short or long term, thus attempts to improve water quality would be lacking.

Geology, Soils, and Vegetation

General adverse impacts to geology, soils, and vegetation as a result of authorized livestock use may include soil compaction, soil crust removal, vegetation trampling and loss, increased erosion, development of bare ground areas/trails, and the introduction of invasive exotic plants.

Under this alternative, livestock would not be excluded from accessing the lake for watering purposes, thus increasing the potential for erosion and landslides on steeper terraces.

Livestock use could affect soil structure mainly by compaction. Compaction reduces water and air infiltration into the soil, which could restrict plant root growth and plant vigor. Soil compaction can lead to surface water runoff, puddling and subsequent soil erosion and reduced soil productivity. Livestock use on slopes can break down fragile soils, particularly the loose sands and gravels on the steep slopes in the Spring Canyon and Neal Canyon areas. Accelerated erosion near the Lake Roosevelt shoreline and streambanks of tributaries to the Columbia River may create water quality issues by introducing sediments and nutrients into the lake. Soils that already exhibit water and wind erosion hazards could see increases due to livestock use.

Livestock use has a direct affect on soil conditions and attributes such as stability, permeability, water capacity, erosion and runoff potential, and effective rooting depth. The hoofing action from livestock results in soil compaction, removal of top soil, vegetation trampling and removal which can alter any one of the attributes listed above. Livestock hoofing action in and around sensitive wetlands, riparian areas, and artificial watering sources can result in large mud zones that alter or inhibit vegetative growth, and impact water quality of the immediate water source as well as waters downstream including the lake.

Livestock rotation techniques would not be adopted, thus soils and vegetation would become more impacted over time in the same areas. Vegetation may be overgrazed if not monitored. Livestock trails (numbers, depth and width) would increase which would set in motion impacts not only on soils and vegetation, but also water quality and visitor experience. Trails act as conduits for invasive species introductions, and are the major source for introducing and spreading exotic plants in upland areas. Livestock use could cause an increase in weed populations as a result of trampling desirable vegetation, displacing soil, preparing noxious weed seedbeds through hoof action, and transporting and dispersing seeds on their coats and through their digestive tracks. Without a monitoring program soil and vegetation changes would be difficult to assess and correct if necessary, especially since no specific best management practices would be instituted.

Although livestock use is not the only factor influencing geologic features, soil attributes, and vegetation composition, it is a non-native, nonconforming use that is human induced and manageable. Under this alternative, management actions would not control or mitigate negative impacts in the short or long term. Since livestock use has occurred in the park for over 70 years, it is inferred that impairment is occurring and that actions in this alternative would not improve the values associated with the lake's geology, soil conditions, and native vegetation composition.

Wildlife and Threatened, Endangered, and Special Status Species

Impacts to wildlife and wildlife habitat may result from livestock use. Potential impacts to wildlife would include habitat loss from vegetation trampling and uncontrolled spread of noxious weeds. Livestock and wildlife competition for vegetation is a potential concern if concentrated livestock grazing on the allotments excludes natural grazers. Livestock use in or near critical

habitat areas may cause habitat fragmentation. It is not anticipated that grazing would have adverse impacts on the bald eagle populations or nesting sites, but this alternative would not be in compliance with the State's Bald Eagle Management Plan, nor the Priority Habitat and Species Program. This alternative does not propose any habitat improvements, thus there would be no concern about fencing or upland water source developments related to wildlife movements and habitat use.

The sagebrush lizard, a Federal species of concern and State candidate, has a known habitat distribution in Lincoln County. The status of the species within the park is unknown, but the State Fish and Game Department states that "any activities that alter these habitats, such as conversion to agriculture and/or activities that promote the invasion of cheat grass are likely detrimental to sagebrush lizard populations" (Washington Natural Heritage Program, 2002).

Trampling impacts to the *Antennaria parvifolia* patch on the Esvelt private property could reduce the plant's vigor, growth, regeneration, and potential spread onto parkland. Best management practices to reduce or mitigate possible livestock impacts occurring on the *Astragalus arrectus* populations within the Green allotment would not be implemented.

Because no monitoring program would be instituted it would be difficult to assess the degree of cumulative impacts to wildlife habitat and special status species within or adjacent to the allotments. It is inferred that cumulative impacts would occur under this alternative.

Wetlands and Aquatic Resources

The presence of water with lush vegetation, especially in semi-arid or desert lands, makes these areas attractive foraging, watering, and shading sites, so much so that livestock will spend a relatively large percentage of their time in wet areas as compared to time spent in upland areas (Chaney et al., 1993).

There is abundant research that documents the effects of grazing on stream and riparian ecosystems in the western United States. A survey of livestock influences concluded the following:

> "Livestock grazing has damaged approximately 80% of stream and riparian ecosystems in the western United States ... Livestock seek out water, succulent forage, and shade in riparian areas, leading to trampling and overgrazing of stream banks, soil erosion, loss of stream bank stability, declining water quality, and drier, hotter conditions" (Belsky, 1999).

Under this alternative, livestock use would continue in riparian habitats and potentially compromise stream bank stability and reduce the amount of shade to the stream, which increases water temperatures and decreases habitat conditions for fish and other aquatic species. Livestock use and associated impacts along the lake shoreline and tributary confluence areas would continue, which is where livestock tend to congregate, urinate, and defecate. These activities near water reduce water quality and potentially decrease habitat conditions for aquatic life.

The Columbia spotted frog, a species of concern, has known distribution in Stevens and Lincoln County. Human induced changes in hydrology, water quality and wetland integrity are the major threats to this species. Successional changes in vegetation may also threaten this species, but are unstudied (Washington Natural Heritage Program, 2002).

Shorelines and riparian corridors that currently experience heavy use by livestock for watering purposes would continue to receive heavy use. Wetland areas that are currently open to livestock use would remain open to impacts on those sensitive resources. No monitoring program would be instituted to detect changes in the wetland and riparian ecosystems due to livestock use.

Cultural

Trampling, trailing, urinating, and defecating may cause direct impacts to cultural sites that are exposed on the surface. Immediate impacts from livestock activities could include damage to exposed prehistoric surface sites, damage to wood, rock, or adobe structures. Sub-surface materials may be damaged through soil compaction and vegetation removal caused by livestock grazing, especially trampling during times of wet weather.

Under this alternative a monitoring program would not be developed to assess the impacts of grazing on archaic, historic, or culturally important plant sites.

Grazing impacts to known cultural resources may continue to occur on the Henslee, Gifford, and Green allotments. Without complete surveys it would be difficult to assess cumulative impacts to cultural resources on the allotments. Cumulative effects may include stock trails across surface sites, soil compaction from trampling, manure that invite burrowing insects and rodents, accelerated surface soil erosion due to the loss of vegetation cover, bedding in cultural sites, and disturbances in the horizontal relations of surface-occurring artifacts.

Visitor Experience

Livestock would continue to access the lakeshore for watering purposes and potentially cause associated impacts. Livestock use along the shoreline may impact visitors that camp, fish, picnic, swim or walk along one of the many popular public undeveloped beaches within the park. Potential impacts may include, but are not limited to the presence of cattle on beaches, urinating and defecating by cattle in or near visitor use areas, and mud and algae growth at tributary confluences and shoreline. The water quality criteria established for Class AA waters relating to aesthetic values and the visitor experience may be impaired. The criteria is as follows:

> "Aesthetic values shall not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste." (Washington State Dept. of Ecology, 1997).

Subleasing special use permits is illegal and would be enforced, thus the livestock impacts (feces at the campsite and throughout the small island, overgrazed vegetation, trampling of wetland areas) occurring on Summer Island boat-in only campground would be eliminated.

Socio-Economic

Under this alternative the National Park Service would receive approximately $500.00 annually in grazing fees. There would be no significant economic impacts to the permittees because grazing operations would continue as is, no best management practices or range improvements would be instituted.

Cumulative Impacts – All Resources

Livestock use impacts many resource values at once, thus the use is inherently long-term and cumulative. As vegetation is effected so is the soil, so is the water, so is the wetland, so is the

wildlife habitat, so are the species of special concern, and so are the cultural resources. It is difficult to say that there is an impact on vegetation without an impact on wildlife habitat. It is the health of the ecosystem that is the real value. The health of each resource value is dependent on the health of another resource. The question is, to what degree is the impact occurring? This is where an assessment of resource conditions and monitoring program is critical. Without adequate documentation of the resource condition and implementation of a monitoring program, an objective evaluation of cumulative impacts (degradation or damage) is difficult.

7.2 Alternative 2: Moderately Manage Grazing Activities.

The impacts associated with alternative two are almost identical to alternative one with some exceptions. Impacts on vegetation would be reduced in part due to implementation of best management practices for native bunchgrass species. On the other hand, improvement of rangeland health for these key species may be negated because timing of use would not be critical. A minor exception would be on the Gifford allotment where deferred grazing would occur once every three years. Lack of a monitoring program for natural and cultural resources would not assist in resource protection and rangeland health improvement over time. This would lead to a lack of knowledge and information about effects of grazing use on the resource and visitor experience. All the other environmental consequences identified for alternative one would apply to alternative two.

7.3 Alternative 3: Actively Monitor and Manage Grazing (Proposed Action)

Water Quality

Impacts to water quality would be mitigated through range improvements such as fencing livestock away from wetland and riparian corridors and the lakeshore, and providing upstream water sources. Monitoring efforts would evaluate vegetation recovery and possible need for reseeding or other revegetation efforts which would increase or improve riparian vegetation cover to provide shade to streams and catch nutrient pollutants in surface run-off. Any water quality monitoring efforts would include a fecal coliform bacteria indicator. Bacteria counts, nutrient loading, algae growth, and organic matter from livestock use would be reduced. Restoring, establishing, or maintaining riparian buffer zones would filter out sediment from runoff, improve bank stabilization (reducing erosion), and slow release of water to streams, increasing seasonal water quantity and quality (Chaney et al., 1993).

Geology, Soils, and Vegetation

Under this alternative, best management practices and a monitoring program would be instituted. Erosion and landslide potential on steeper terraces would be reduced by attracting livestock away from the lakeshore.

Effects to soil resources as identified under alternative one would be mitigated through a monitoring program and implementation of a series of best management practices.

Plant community health and presence of native species should increase over time given other factors such as livestock numbers and grazing frequency do not increase. Season of use and timing is critical. Turning the livestock out at appropriate times would help increase the native vegetation and reduce non-native vegetation. Noxious weed populations would be reduced through an active weed control and monitoring program.

It is acknowledged that under all three alternatives, noxious weeds may still become established within the allotments as a result of wildlife movement, administrative and public access and disturbances, wind, and water borne seed introduced from adjacent weed-infested lands.

Wildlife and Threatened, Endangered, and Special Status Species

Best management practices (duration, timing, and frequency of grazing) would reduce vegetation loss. Reducing the duration of grazing and providing a rest period as identified in Appendix B could alleviate grazing impacts to upland pastures. Increased vegetation height and density could improve nesting habitat for shrub-steppe dependent wildlife. Fencing riparian corridors and wetlands using techniques to allow wildlife movement would reduce mechanical damage caused by livestock and allow wildlife habitat quality improvements. Riparian shrub communities typically provide habitat for numerous species of upland birds, amphibians, and mammals (BLM, 2002). Coordinated weed management control would reduce the spread of noxious weeds and improve habitat for wildlife.

Fencing type and installation procedures will be coordinated with the BLM and NRCS to ensure that wildlife habitat needs and movement patterns are considered and not adversely impacted.

Effects on special status plants would be mitigated under this alternative through inventory and monitoring efforts that would identify special status plant populations within the allotments and assess effects of grazing on these plants. Best management practices would be implemented to mitigate these impacts.

This alternative would be in compliance with the State's Bald Eagle Management Plan, management recommendations for species of concern, and the Priority Habitat and Species Program.

If through monitoring activities, indicators reveal that demand for forage by livestock and wildlife exceeds supply, the NPS would consult with the Washington Fish and Game Department and USFWS to develop management actions that would bring the wildlife populations into thriving ecological balance, which may include reducing livestock numbers.

Wetlands and Aquatic Resources

Under this alternative fencing and upland watering source developments would exclude livestock from impacting shorelines, riparian corridors, and wetlands on the Green, Coffman, and Rosenberg allotments. Wetland areas that currently exist and are not being used on the Henslee and Eckman allotments would not be part of the permitted acreage. Wetlands that are not currently fenced would be fenced. Mud and manure management techniques on the Esvelt allotment would be implemented to reduce impacts at the watering trough and stream that flows from private property onto parkland and then into the lake. Monitoring efforts would document recovery of the shorelines and wetlands and effects of best management practices.

Best management practices and range improvements may result in an increase in riparian vegetation and water quality over time. An increase in riparian vegetation would likely result in cooler water temperatures and improved habitat conditions for fish and other aquatic species. Providing upland water sources would keep livestock away from the lakeshore and stream channels, which would reduce levels of fecal coliform and help improve habitat conditions for aquatic life.

This alternative would strive to be in compliance with EO-11990 and institute best management practices that would move wetland resources towards proper functioning systems.

Cultural

Impacts would be similar to those identified in alternative one, except they would be reduced through best management practices. If the cultural surveys demonstrate that historic sites are being affected by grazing, then avoidance (fencing) or other mitigation measures will be adopted following tribal and State Historic Preservation Office consultation. Prior to any fence or water improvement projects, a cultural resources review would need to be conducted.

Under this alternative, an inventory and monitoring program would include plants of cultural importance, trailing, soil compaction, manure, and bare ground. Grazing impacts could be assessed over time on cultural sites and best management practices would be implemented to mitigate any impacts occurring.

Visitor Experience

Under this Alternative impacts identified under alternative one would be mitigated by best management practices. Protection of water quality and the shoreline values would positively benefit the visitor experience and help protect recreation opportunities within the National Recreation Area. Department of Ecology water quality criteria related to aesthetic values and visitor experience would be met.

Subleasing special use permits is illegal and would be enforced, thus the livestock impacts (feces at the campsite and throughout the small island, overgrazed vegetation, trampling of wetland areas) occurring on Summer Island boat-in only campground would be eliminated.

Socio-Economic

Under this alternative the National Park Service would continue to receive at least $500.00 annually in grazing fees. There would be some economic impacts to the permittees and the park for range improvements such as fencing to improve riparian and shoreline habitats, water quality, and visitor experiences. If upland watering sources are developed there would be costs involved for this also. Some of the costs (including actual dollars, equipment, manual labor, and information/technology) for fencing, off-stream watering, control of noxious weeds, and riparian improvements can be shared through regional and state programs.

The cost of operation will increase due to the increased fencing maintenance, and pumping costs for upland water developments.

Cumulative Impacts – All Resources

Implementation of the proposed alternative and best management practices would mitigate cumulative impacts on the environment due to livestock grazing. The loss of the lake and sensitive riparian areas as a water source will be offset by upland water developments. Through management actions the value of the resources would be protected in a manner above and beyond restrictions placed on private lands adjacent to the allotments, resulting in a cumulative beneficial impact to the park's natural and cultural resources. The plan would provide long term direction and guidance for livestock activities within the park.

8.0 Consultation and Coordination

Gina Pearson, Natural Resource Specialist at Lake Roosevelt NRA, prepared this Livestock Management Plan and Environmental Assessment with advice and consultation from several individuals, agencies, and organizations. Initial meetings to discuss implications of the 2001 Legislation, potential Livestock Management Plans and cultural/environmental assessments were conducted in January and September of 2002 in Colville and Davenport, Washington. Scoping meetings were held with the grazing permittees in February and March of 2003 to identify livestock management issues specific to this plan. Scoping meetings with the permittees also were held in March, 2004. The Draft LMPEA was sent for cultural and natural resources review to the State Historic Preservation Office, the Confederated Tribes of the Colville Reservation, Spokane Tribe of Indians, the U.S. Fish and Wildlife Service, and the State Fish and Wildlife Department.

On August 23, 2004 the Draft LMPEA was distributed to 109 individuals and organizations for formal public review. Public distribution and notification of the comment period, August 23-October 7, 2004, occurred through websites, press releases, cd copies, hard copies, and letters. On September 9th and 13th press releases were distributed out to announce open house meetings at Kettle Falls and Grand Coulee for Sept. 21st and 22nd respectively. The complete plan, including maps was placed on the NPS Planning, Environment and Public Comment (PEPC) website. A link to the PEPC site was added to the Lake Roosevelt NRA home page. The following is a list of those consulted during the planning process.

Lake Roosevelt NRA Current and Former Staff

Frank B. Andrews, Jr	Chief, Cultural Resources Management
Deborah E. Bird	Superintendent
Lynne Brougher	Chief, Resources Education
Ray Dashiell	Facility Manager
Ray DePuydt	Archeologist
Sherry Dotson	Former Park Secretary
Nancy Fritz-Cressey	Former Biological Science Technician
Marty Huseman	Former Lands Specialist/Park Ranger
Marlene Igo	Management Assistant/Administrative Officer
Mike Kaberline	Former Archeological Technician
Nate Krohn	Landscape Architect
Gig LeBret	Kettle Falls District Ranger
Dan Mason	Chief Ranger
Roberta Miller	Former Program Assistant
Katie Mitchell	Former Biological Science Technician
Karl Pearson	Spring Canyon District Ranger
Jerald Weaver	Chief, Compliance and Natural Resources Management

Grazing Permittees

David Coffman	Spring Canyon District
Edie Eckman	Kettle Falls District
Fred and Robert Esvelt	Kettle Falls District
Ron Gifford	Kettle Falls District
Larry Green	Spring Canyon District
Lawrence Hensley	Kettle Falls District
C. Ronald Rosenberg	Spring Canyon District

U.S. Congress

U.S. Senator Maria Cantwell
U.S. Senator Patty Murray
Former Congressman George Nethercutt
Representative Doc Hastings

Federal Agencies

U.S. National Park Service:
- Columbia Cascade System Support Office, Seattle, WA
- Pacific West Region, Oakland, CA
- Regional Solicitor's Office
- Chiricahua National Monument, Superintendent
- Death Valley National Park, Botanist
- Glen Canyon National Recreation Area, Water Resources
- Grant-Kohrs Ranch National Historic Site, Chief of Resources Management (current Livestock Management Coordinator for the NPS)
- Great Basin National Park, Chief of Resources Management
- Mojave National Park, Environmental Compliance Specialist
- Montezuma Castle National Monument, Superintendent (former Livestock Management Coordinator for the NPS)
- Water Resources Division, Denver and Ft. Collins, CO (Wetlands Specialist and Hydrologist)
- Natural Resource Program Center, Denver, CO (Soils Scientist)
- Inventory and Monitoring (Invasive Species Coordinator, Upper Columbia Network Coordinator)

U.S. Bureau of Reclamation:
- Grand Coulee Office, GIS Specialist and others
- Ephrata Office, Realty Specialist

U.S. Bureau of Land Management:
- Spokane Office, Range Management Specialist
- Grand Staircase Escalante National Monument, Botanist

U.S. Forest Service
- Colville National Forest
- Okanogan National Forest

U.S. Natural Resource Conservation Service:
- Colville, Washington
- Davenport, Washington
- Ephrata, Washington
- Okanogan, Washington
- Colville Tribal Liaison

U.S. Bureau of Indian Affairs
- Natural Resources (Nespelem and Wellpinit, WA)
- Range Management (Nespelem, WA)
- Superintendent (Nespelem and Wellpinit, WA)

U.S. Fish and Wildlife Service (Spokane, WA)

U.S. Environmental Protection Agency (Seattle, WA)
Bonneville Power Administration (Spokane, WA)

Indian Nations

Colville Confederated Tribes
- Historic Preservation Office
- Business Council
- Environmental Trust
- Fish and Wildlife
- Parks and Recreation
- Planning Department
- Tribal Attorney

Spokane Tribe of Indians
- Business Council
- Natural Resources
- Historic Preservation Office
- Planning

State of Washington

Former State Representative Cathy McMorris
State Representative Bob Sump
State Senator Bob Morton
Department of Agriculture
Department of Ecology, Water Resources
Department of Fish and Wildlife
Department of Natural Resources
Office of Archeology and Historic Preservation

County

Lincoln County
- Weed Control Board Coordinator
- Planning Department
- County Commissioners

Stevens County
- Weed Control Board Coordinator
- Planning Department
- Federal Lands Advisory Committee
- County Commissioners

Ferry County
- County Commissioners
- Weed Board Coordinator

Chamber of Commerce/Town Councils

Electric City
Grand Coulee
Kettle Falls
Town of Coulee Dam

Organizations and Educational Institutions

Lake Roosevelt Forum
Lake Roosevelt Water Quality Council
National Parks and Conservation Association
North Cascades Conservation Council
North Columbia Forestry Associates
Northwest Ecosystem Alliance
Sierra Club
University of Idaho
Washington State Cattlemen's Association
Washington Environmental Council
Washington State University Extension (Lincoln and Ferry County)

9.0 Additional Laws and Policies Considered

In addition to those laws and policies already referred to in this document, the following mandates must be considered when determining livestock management actions within a National Park unit.

The Redwood Act of 1978 further defined the 1970 General Authorities Act for the National Park Service, specifically mandating all park units be managed and protected "… in light of the high public value and integrity of the National Park System …" and that no activities be undertaken "… in derogation of the values for which the areas were established, … except where specifically authorized by law."

The Federal Noxious Weed Act of 1974 was amended in 1990 to specifically address the management of undesirable plants on Federal lands. It directs Federal agencies to designate an office or person adequately trained in the management of undesirable plant species to develop and coordinate an undesirable plants management program on Federal lands under the agency's jurisdiction. The amended act further states that, "Federal agencies, as appropriate, shall enter into cooperative agreements with State agencies to coordinate the management of undesirable plant species on Federal lands. A Federal agency is not required under this section to carry out programs on Federal lands unless similar programs are being implemented on State or private lands in the same area" (Federal Noxious Weed Act, 1990).

The 1972 Clean Water Act, Section 404 and subsequent amendments, through a suite of nationwide water quality protection provisos is designed to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

The Shoreline Management Act was adopted in Washington in 1972 with the goal of "preventing the inherent harm in an uncoordinated and piecemeal development of the state's shorelines." The policy is meant to protect the quality of water and the environment, and to preserve and enhance public access to shorelines.

The 1917 Washington State Water Code was passed to establish a permit system for using surface water. It also established procedures for adjudicating all water rights prior to the act. The Washington State

Legislature said “all waters within the state belong to the public, subject to existing rights.” The Legislature mandated that the state administer the water resources.

The 1945 Washington State Ground Water Code was an extension of the 1917 code. By this time, many people in the state were using ground water. It created a permit system for all uses of ground water, except withdrawals of less than 5,000 gallons per day.

The Washington State Water Resources Act of 1971 was passed to protect and manage our water resources for “the greatest benefit of the people.” The act became necessary because of the increasing conflict in water use and applications for larger amounts of water. This act mandates water resources data collection and management and development of plans.

Other laws, policies, and guidelines that are relevant to livestock management include, but are not limited to: the Plant Protection Act of 2000, which incorporates sections of the Federal Noxious Weed Act; National Environmental Policy Act of 1969, as amended; Historic Preservation Act of 1966, as amended; Antiquities Act of 1906; Archeological Resources Protection Act of 1979; Taylor Grazing Act of 1934; Endangered Species Act of 1973, as amended; NPS-77 Natural Resources Management Guidelines; NPS-53 Special Park Uses; NPS Directors Orders and Reference Manuals for Cultural Resource Management, Wetland Protection, and Integrated Pest Management; Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public lands Administered by the Bureau of Land Management in the States of Oregon and Washington, August 12, 1997.

Appendix A.
Terms and Conditions of a Grazing Special Use Permit
Lake Roosevelt National Recreation Area

1. The Special Use Permit and Terms and Conditions shall operate under the general guidance of the Livestock Management Plan for Lake Roosevelt National Recreation Area, approved ____, 2005.

2. Livestock will be allowed to graze only within permitted allotment areas. The permittee is responsible for control and management of his/her livestock while using the permit.

3. The permittee shall file with the Superintendent a copy of his/her stock brand or other mark of ownership. Only livestock with the permittee's brand shall graze on park lands.

4. Before driving livestock to or from the grazing allotment, the Superintendent may require the permittee to gather livestock at a designated time and place for the purpose of counting the same.

5. All livestock are considered as mature animals at six months of age and are so counted in determining animal unit months and numbers of animals.

6. All or a portion of the permit can be temporarily suspended by the Superintendent due to drought, fire, flood, or other natural or man-made catastrophe, or to facilitate installation, maintenance or modification or range improvements. When grazing has been temporarily reduced, the unused portion of the permit shall be set aside until the Superintendent determines that full grazing use can resume.

7. All or a portion of the permit can be suspended or revoked when grazing activities have a documented detrimental and unacceptable affect on water quality, soils, plant composition, wildlife, or cultural resources that cannot be mitigated through BMPs (NPS, 2002a).

8. The Superintendent may modify existing terms or add additional terms and conditions to this permit, as needed. Before making such modifications, the Superintendent will consult with and provide opportunity for comment from the permittee concerning modifying existing terms or prescribing added terms. The Superintendent will notify the permittee of the modification or addition of terms and conditions 60 calendar days prior to adoption of the new or modified term or condition.

9. No permit shall be issued or renewed until payment of all fees and other amounts due the National Park Service has been made. Fees due must be paid at least 15 days in advance of the grazing period. A pro rata adjustment of fees will be made in the event of reduction of grazing privileges granted in the permit, except that not more than 50% of the total annual grazing fee will be refunded in the event reduced grazing benefits are taken at the election of the permittee after his/her stock is on the range.

10. The National Park Service reserves the right to adjust the fees specified in the permit at any time to correspond to those fees approved for adjoining Federal, State, private agencies, or any change in National Park Service policy. The permittee shall be furnished a written notice of any change of fees.

11. Range improvements shall be installed, used, maintained, modified or removed from parklands in a manner consistent with the Livestock Management Plan for Lake Roosevelt NRA. Prior to installing and/or modifying range improvements on park lands, the permittee will submit a request to, and obtain the consent of the Superintendent. The Superintendent, after compliance with the National Environmental Policy Act and other applicable statutes, will notify the permittee in writing of the decision on a request to install or modify a range improvement. Upon the Superintendent's approval of the range improvement, the permittee and the park will enter into an agreement describing construction and maintenance responsibilities for the approved project. Any range improvement constructed under this permit will belong to the United States, EXCEPT for those improvements on private land.
12. The National Park Service will not expend funds to construct or maintain livestock structures unless there is a direct benefit to the protection of park resources (NPS, 2001a).

13. All structures built under the terms of this permit must be of a temporary nature subject to removal upon termination of the permit. All structures of a permanent nature are prohibited, except by prior written permission of the Superintendent. Structures built will be in accordance with the Management Areas defined in the Livestock Management Plan. Natural and cultural compliance must be completed before a structure is built.

14. Upon the expiration of this permit by limitation of time or its termination for any reason prior to its expiration date, the permittee shall remove within 90 days, or as otherwise determined by the Superintendent, all structures and improvements placed on federal land by the permittee. The site shall be restored to natural conditions under the direction of the Superintendent. All property not removed within the aforesaid period, shall become the property of the United States and may be disposed of and the property restored at the permittee's expense.

15. Natural and cultural resource protection will be given first priority when determining livestock management priorities (NPS, 2001a).

16. No livestock use or activity, regardless of how authorized, will be allowed that would impair or derogate the resources, values or purposes for which a park was established. In particular, livestock use that depletes or degrades non-renewable resources, or whose effects cannot be mitigated, will not be allowed (NPS, 2000c).

17. The permittee shall not engage in any of the following practices:
    a. Violate any term or condition of this permit, either as issued, or as subsequently modified by the NPS.
    b. Transfer this permit, in whole or in part, to any other person as described in P.L. 107-63, Sec. 114, 2002.
    c. Construct, replace or alter a sensitive habitat improvement without NPS approval, or fail to remove a sensitive habitat improvement as directed by the NPS.
    d. Disturb any ground on Federal land without first obtaining permission from the NPS, except for minor emergency repairs with the use of hand tools.
    e. Sublease. "Sublease" means the same as defined in 43 CFR 4100.0-5.
    f. Graze livestock without an NPS permit.
    g. Graze livestock in excess of numbers authorized by this permit.
    h. Cut, burn, spray, destroy or remove vegetation without NPS approval.
    i. Litter.
    j. Knowingly or willfully make a false statement or representation in grazing applications, sensitive habitat improvement applications, actual use reports and/or amendments thereto.
    k. Violate State livestock board requirements relating to branding of livestock, breed, grade, number of bulls, and health and sanitation requirements.
    l. Place supplemental feed, as defined in 43 CFR 4100.0-5 and the Superintendent's Compendium, without NPS approval.
    m. Violate any Federal, State or local law or policy relating to conservation and protection of natural or cultural resources or environmental quality.
    n. Drive off road in the park. However, limited vehicular use necessary for range improvements as defined in the Livestock Management Plan may be allowed only with prior authorization provided in writing by the Superintendent.

18. The permit may not be used as an adjunct to any business for which direct or indirect compensation is received.

19. This permit does not grant any property right nor does it grant the permittee exclusive use or possession of the lands above described. The United States reserves the right to its officers and agents to go upon said premises or upon any property of the permittee at any time in connection with any official governmental duties such officers or agents may be required to perform on behalf of the Government.

20. The Federal Government assumes no responsibility whatever for any injury, loss, or damage that may result from landslides or slippage of the shore lands, lake fluctuation, fire, or any other injury, loss or damage that may result from the exercise of privileges conferred by this permit. The permittee will hold the Federal Government, its assignees, officers, agents and employees harmless from any and all claims arising therefrom.

21. The permittee shall assume all liability imposed by law for damage to any third party or parties by reason of the exercise of rights and privileges conferred by this permit.

22. The breach of any of the terms or conditions of the permit shall be grounds for termination, suspension, or reduction of grazing privileges.

23. A request for permit renewal should be considered as carefully as if it were an initial application. The review should take place before the existing permit expires, and must ascertain the continuing validity of the original findings as well as the Administrative Record of what has taken place since those findings. The review will determine whether the activity is still mandated or legally permissible, and whether it continues to be appropriate and compatible with the purposes of the park (NPS, 2000c).

24. The permittee may appeal a decision made under the terms and conditions of this permit to the Regional Director, Pacific West Region, National Park Service, 1111 Jackson Street, Suite 700, Oakland, CA 94607. Such an appeal must be filed in writing within 30 calendar days after the date of notification to the permittee of the decisions under this permit. The terms and conditions of this permit remain in effect during the appeal process. The permittee may appeal a decision of the Regional Director to the NPS Director, Washington, D.C. within 30 calendar days after receipt of notice of the Regional Director's decision. The appeal of the NPS Director will be the final administrative appeal under this permit.

Appendix B.
Livestock Grazing Guidelines for
Native Bunchgrasses - jointed species

(Source: Technical Note Range 34, U.S. Department of Agriculture, Natural Resource Conservation Service, Davenport, Washington)

Native Bunchgrasses (bluebunch wheatgrass, big bluegrass, basin wildrye, Idaho fescue, thurber needlegrass, needle-and-thread grass).

A) Proper grazing use:

Graze no more than 50% of the total available forage during the growing season:

- Heavier use impacts root growth. At 60% use half of the roots stop growing for 12 days, at 80% use all roots stop growing for 12 days. As a result the plants are not producing for 10% of the growing season.
- There is always a balance between top growth and roots. Small top growth is only able to support a small, shallow root system, which means the plant is always in a drought. A large, healthy root system is able to produce abundant forage and minimize weed invasion.

Graze no more than 60% when dormant.

- Stubble collects snow, insulates the crown of the plant preventing winter kill, and stubble breaks down returning nutrients to the soil.

B) Graze a field no more than half the growing season (the shorter the grazing period the better).

- Reduces the risk that an individual plant will be grazed a second time before it is able to recover from the first grazing.

C) Graze a field only once every 3 years during the critical period (boot through soft dough stage).

- During the critical period the growing point (the portion of the stem that becomes the seed head) is elevated and can be removed by grazing. When the growing point is removed that stem can no longer grow and new growth must come from the base of the plant, which reduces next year's stems, and less than a 1:1 ratio of stem replacement will result in smaller plants.

D) Defer each field 1 out of 3 years during the growing season. Grazing is delayed until after seed maturity.

- Allows the plant to produce seed and replenish its food reserves once every three years.

E) Conclusions on Livestock Grazing Management

- Only two factors of plant growth are within our control:
  1. Intensity (size of leaf area remaining after grazing)
  2. Timing and duration of grazing
- The more leaf area that remains after grazing, the faster the plant will grow. Adequate leaf area is necessary to ensure photosynthesis.

F) Low Production Years

During low production years, livestock use will need to be balanced with the lower plant production. Acceptable options to deal with this include the following.

- Decrease the number of livestock grazing each pasture.
- Decrease the duration of grazing.

Appendix C.
Lake Roosevelt National Recreation Area
Rapid Assessment of Livestock Use within Allotments
Level I Inventory and Monitoring Form

Completed by: _____ Date_____ Allotment Name _____

1. Type of Visit: Assigned _____, Incidental Routine_____, SUP Violation (CIR#_____)

2a. Transect Location (GPS begin & end): _____; 2b. District _____

3. Topography (Steep slopes, rocky, flooplain, variable):_____

4. Type of Site (Upland or Riparian): _____

5a. Distance from water source and type: _____ 5b. Water source (private or park):_____
5c. Water elevation (Lake Roosevelt): _____

6. Vegetation Type: _____

7. Percent estimate of exotic vegetation and species: _____

8. General Description of Area: _____
_____

9. Photo points and Descriptions: _____
_____

10. Aerial Photo of Transect Location:

11. Overall Condition Rating based on comparison of previous inventory (circle one):
No Change Positive Change Negative Change

Appendix C. Continued
Lake Roosevelt National Recreation Area
Rapid Assessment of Livestock Use within Allotments
Instructions for Level I Inventory and Monitoring Form

Use One Form per Transect

Baseline Information:
The first step in this rapid assessment is for the Natural Resource Management Division to establish transects and describe baseline information for each site. Once the background information is recorded for each transect, the Ranger Division will be responsible for conducting routine seasonal monitoring of grazing use. Much of the information will be constant over time, but other data may change and this is what rangers need to focus on. Some important factors for rangers to identify on the forms may include: new disturbances to resource conditions, any significant changes to the type and distribution of exotic plant species, general description of the area (is there any evidence of recent livestock activity), and to conduct repeat photo points as identified on the baseline form. Resource managers will provide rangers with initial forms already filled out for each allotment.

Some allotments will have more than one transect depending on topography, size, site diversity. For example: most of the Gifford allotment is a WPA historic resource area. In this case it may be best to conduct one or two transects through the entire allotment. Also, many allotments contain upland and riparian or lakeshore zones, thus at least one transect should be conducted in each zone. Visual observations will be conducted on either side of the transects. Whether one, two or three transects are conducted, the transect(s) chosen for a particular allotment will be GPS located and marked with rebar for repeat monitoring.

Instructions for specific numbers on form
1. Type of visit: Mark whether individual completing the form was assigned to conduct the rapid assessment on the allotment (prior, during or after livestock grazing period), or whether assessment was conducted on a routine patrol. If a commissioned ranger writes a citation for a Special Use Permit violation please list the number. A copy of the case incident report should accompany the monitoring form or be sent to the Chief of Compliance and Natural Resources shortly after the incident.

2a. Transect Location: The beginning and end of each transect will be GPS identified and marked with rebar if necessary. Each ranger and resource management employee has access to a GPS unit. Please make sure have extra batteries for GPS.

2b. District: Note district name where allotment is located (Spring Canyon or Kettle Falls).

3. Topography: Describe the topography along the transect.

4. Type of Site: Note if the transect is in an upland or riparian area (stream or lakeshore).

5a. Distance from water source and type: If transect is along riparian area then distance is 0. If transect is on an upland vegetation zone then estimate the distance to the nearest watering

source for livestock. Identify type of watering source (stream, lake, spring, artificial). If named water source note the name.

5b. Water source (private or park): Note if livestock water source is on private or park land?

5c. Water elevation: Note lake level as posted daily by Bureau of Reclamation.

6. Vegetation type: Describe vegetation in transect. Estimate % of the following:
- Shrubland: mostly shrubs (bitterbrush, sagebrush, rabbitbrush, and some cacti)
- Riparian: mostly trees near water (willows, cottonwood)
- Grassland: mostly grasses and forbes (native and exotic)
- Forested: mostly trees (ponderosa pine, Douglas fir)

7. Estimate percentage of exotic vegetation and species: Give an estimate of the percentage of exotic vegetation present along the transect area. Resources will provide a list of potential exotic species for area.

8. General Description of Area: Describe the area's resources, any obvious impacts, or changes to the area from previous assessment. If livestock present note how many seen and describe their behavior. If any visitors present note how many and describe observed behavior. Note if vegetation appears to be grazed to the ground or if plant growth appears healthy. If can determine, note plant stage (bud, flowering, seed, etc.). **Note any soil erosion problems and any cryptobiotic soil disturbance. May want to walk entire transect before fill this out.

9. Photopoints: Photopoints will accompany each transect. Resources will establish and document by GPS the location of each photo so as to best describe the transect area. The photos will be taken from the rebar to ensure relocation of photopoints for repeat photography. Looking down the transect, one photo should be taken 45 left of the rebar, one photo straight on down the transect, and one photo 45 right of the rebar. During an assessment if major impacts are observed such as a trail coming down a steep slope to the lake, then resource conditions should be documented and photographed. Any new photopoint(s) should be described on the area map. Digital photos will accompany each assessment form. Photos should be labeled by allotment name, transect number, and date. This will ensure photos and forms are not mixed up.

10. Impacted Area Map/Sketch: Accurate maps are important for relocating areas for repeat monitoring. Resources will provide baseline map. Icons used on maps will be consistent. Here are some elements to include on the map.
- use the North arrow
- transect and rebar location identified
- note location of major impacts observed
- note location of livestock and/or visitors observed
- note location of lake and tributary streams
- identify any major features such as roads, trails, or public campgrounds

11. Overall Condition Rating based on comparison of previous inventory: Self explanatory. Take a copy of the previous inventory form and photos to help determine this parameter.

Allotment_____ **Lake Roosevelt National Recreation Area** LARO-2- Livestock-2004

Transect #:_____ **Allotment Impact Analysis** Date_____

Impact Parameter	<----------Level of Severity---------->				**Severity Rating**
	0	1	2	3	
1. Livestock Trails	None	1-3 crossing or near transect	3-5 crossing or near transect	> 5 crossing or near transect	
2. Broken/Fallen Fence	None	1-2 small sections	> 2 small sections or 1 lg section	> 3 sections any size	
3. Manure/Livestock Feces (% along trans)	None	0-5% (fresh or old)	5-10% (fresh or old)	> 10% (fresh or old)	
4. Broken soil crusts	None	1-5 patches	5-10 patches	> 10 patches	
5. Shrub damage	None	Minor shrub damage (broken branches along trails)	1-3 shrubs broken or damaged off trails	> 3 shrubs broken or damaged off trails.	
6. Grasses and other vegetation trampling	None	Minimal (1-2 small areas trampled, but some vegetation still present)	3-4 areas any size trampled (moderate vegetation loss)	> 4 areas trampled and severe vegetation loss and/or barren soil	
7. Sensitive Plant Species Damage	None	1-2 patches trampled	3-4 patches trampled	> 4 patches trampled and severely damaged	
8. Arch./Historic Site Disturbance/Damage	None	Minor evidence of site disturbance (trails nearby)	Moderate evidence site being impacted by livestock activities (manure at site)	Clear evidence site being impacted by livestock activities (trails, manure, & cows on site)	
9. Threatened or Endangered Wildlife Species Disturbance	None	Minor evidence livestock activity in critical habitat area (trails nearby)	Moderate evidence livestock activity in critical habitat area (manures at site)	Clear evidence livestock activity in critical habitat area (trails, manures, and core impact area)	
10. Visitor Experience	None	One visitor observed along beach with manure and/or livestock present at site	One group observed along beach with manure and/or livestock present at site	Two or more groups observed along beach with manure and/or livestock present at site	
11. Invasive Exotic Plant Species	None	1-5% of cover within transect area	5-10% of cover within transect area	> 10% of cover within transect area	
12. Stream or Lake Bank Erosion/Upland slope	None	1 small area of bank or upland steep slope eroding due to livestock activities	2-3 lake bank or upland slope areas eroding due to livestock activities	> 3 lake bank or upland slope areas eroding due to livestock activities	

Impact Analysis Form Instructions

This form is intended to be self explanatory and used as walk along transect. May need to keep tally for each parameter as walk transect. After a final number is determined the parameter is rated 0-3. The rating is then written in the column "Severity Rating." For example if manure is found along 10% of the transect, then write 2 on the severity rating column. Natural Resource Management will distribute lists and graphics for sensitive plant species, invasive exotic plants, and any critical habitat areas for each allotment.

It is important to note that as the Level I Monitoring Program evolves and best management practices are implemented, impact parameters and severity levels may need to change. The impact analysis and monitoring forms are intended to give the park management team and superintendent information on livestock activities that has never been collected before, and to assist with decision making regarding these activities and their respective impacts.

Appendix D.
Grazing Fees

CFR 43 Part 4130.7-1

(a)Grazing fees shall be established annually by the Secretary of Interior.

(1) Except as provided in paragraphs (a) (2) and (a) (3) of this section, the calculated fee (CF) or grazing fee shall be equal to the $1.23 base established by the 1966 Western Livestock Grazing Survey multiplied by the result of the Forage Value Index (FVI) (computed annually from data supplied by the National Agricultural Statistics Service) added to the Combined Index (Beef Cattle Price Index-BCPI minus the Price Paid Index-PPI) and divided by 100. For example:

$$CF=\$1.23 \times \frac{FVI + BCPI - PPI}{100}$$

(2) Any annual increase or decrease in the grazing fee for any given year shall be limited to not more than plus or minus 25 percent of the previous year's fee.

(3) The grazing fee for any year shall not be less than $1.35 per animal unit month.

(b) Fees shall be charged for livestock grazing upon or crossing the public lands at a specified rate per animal unit month.

(c) The full fee shall be charged for each paying animal unit which is defined as each animal six months of age or over at the time of entering the public lands, for all weaned animals regardless of age, and for such animals as will become twelve months of age during the authorized period of use. No charge will be made for animals under six months of age at the time of entering the public lands, that are the natural progeny of animals upon which fees are paid, provided they will not become twelve months of age during the authorized period us use, or for progeny born during that period.

National Park Service
Director's Order #53: Special Park Uses
Section 3.6: Permit Fees and NPS Cost Recovery

Except as identified in a permit fee waiver, the NPS will charge fees and recover costs for special use permits unless prohibited by law or Executive Order, or when the prosposed use is protected by the First Amendment or involves another right and not a privilege. Charges should reflect the fair market value of the use requested. The fair market value of a special park use is the value of the lands or facilities used, plus the NPS costs incurred in managing or supporting the use. The NPS will retain funds recovered for the cost of managing a special park use. Charges arising from the use of NPS lands and facilities must be deposited in the U.S. Treasury, unless otherwise specifically authorized by law.

Some considerations when applying the above NPS regulation include:

- The special use permit for livestock grazing at Lake Roosevelt NRA is a privilege
- The cost of managing a special park use permit may include the following.
    1. Billing
    2. Administration of the permit terms and conditions
    3. Level I and Level II Monitoring
- The park may enter into cooperative agreements with each permittee to determine what is the reasonable amount to charge for cost recovery given different work loads for managing the allotments.

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Appendix F.
Glossary

Adjudication – The judicial decree defining and dating a water right.

Allotment - an area of land designated and managed for grazing of livestock.

Best Management Practices (BMPs) – are methods, techniques, or practices designed to protect water quality and habitat, including but not limited to structural and nonstructural controls and operations and maintenance procedures. BMPs are usually applied as a system of practices rather than a single practice. BMPs often provide effective means of preventing or reducing resource damage and/or restoring environmental processes.

Class A Weeds – Non-native species with a limited distribution in Washington. Preventing new infestations and eradicating existing infestations is the highest priority. Eradication is required by law.

Class B Weeds – Non-native species presently limited to portions of Washington. Species are designated for control in regions where they are not yet widespread. Preventing new infestations in these areas is a high priority. In regions where a Class B species is already abundant, control is decided at the local level, with containment as the primary goal.

Class C Weeds – Non-native weeds found in Washington. Many of these species are widespread in the state. Long-term programs of suppression and control are a County option, depending upon local threats and the feasibility of control in local areas.

Compliance – This term refers to the requirement for all federal agencies to comply with the National Environmental Policy Act as outlined in agency guidelines.

Cryptobiotic Soil - A living crust called "Biological Soil Crust," or “cryptobiotic soil” is composed of algae, lichens and bacteria. These crusts provide a secure foundation for desert plants.

Cultural Resources – are aspects of a cultural system that are valued by or significantly represent a culture or contain significant information about a culture. A cultural resource may be a tangible entity or a cultural practice. Tangible cultural resources are categorized as districts, sites, buildings, structures, and objects for the National Register of Historic Places, and as archeological resources, cultural landscapes, structures, museum objects, and ethnographic resources for NPS management purposes.

Cumulative Impact – The impacts of cumulative actions (those actions in the past, present or reasonably foreseeable future regardless of who has undertaken or will undertake them, have an additive impact on the resource the proposal would affect). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Environmental Assessment – A brief document which provides sufficient information to the decision maker on potential environmental effects of the proposed action and, if appropriate, its alternatives, for determining whether to prepare an EIS (environmental impact statement) or a FONSI (finding of no significant impact).

Environmentally Preferred Alternative – The alternative that causes the least damage to the biological and physical environment. It is also the alternative which best protects, preserves, and enhances historic, cultural and natural resources.

Federal Candidate Species - A taxon for which current information indicates the probable appropriateness of listing as Endangered or Threatened, and that has been published in the Federal Register as a candidate for listing under the Federal Endangered Species Act.

Federal Listed Threatened Species - Any taxon that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and that has been formally listed as such in the Federal Register under the Federal Endangered Species Act.

Federal Species of Concern - An unofficial status, the species appears to be in jeopardy, but insufficient information to support listing under the Endangered Species Act.

GIS – Geographic Information System.

Impacts/Effects – as defined by NEPA includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative effects.

Impairment – Any interference with the integrity of park resources and values, or of the opportunities that otherwise would exist for enjoyment of them.

Indicators – parameters of ecosystem function that are observed, assessed, measured, or monitored to directly or indirectly determine attainment of a standard(s)

Integrated Pest Management (IPM) – involves the combination of two or more pest management techniques. IPM can be used to control noxious weeds. IPM techniques do not try to eliminate weeds, but create an ecologically sound balance that de-emphasizes chemical herbicides and looks at alternatives such as biological and mechanical controls. Prevention through education is also used.

Inventory – The systematic acquisition and analysis of resource information needed for planning and management decisions.

Livestock – as defined by the NPS means species of domestic livestock use including cattle, sheep, goats, horses, mules, burros, reindeer, llamas, and alpacas.

Livestock Carrying Capacity – The maximum stocking rate possible without inducing damage to vegetation and related natural and cultural resources.

Monitoring – The orderly collection, analysis, and interpretation of resource data to evaluate progress toward meeting management objectives. The process must be conducted over time in order to determine whether or not management objectives are being met.

NEPA – National Environmental Policy Act of 1969

Noxious Weeds – are invasive non-native plants that are aggressive, competitive, highly destructive or difficult to control. These non-native plants occur at a given place as a result of direct or indirect, deliberate, or accidental actions by humans. Noxious weeds may or may not be toxic. "Noxious weed" is a legal term; the Washington State Noxious Weed List is a regulatory list, and by law control is required.

NPS – National Park Service, U.S. Department of the Interior, www.nps.gov.

NRCS – Natural Resources Conservation Service, U.S. Department of Agriculture, www.wa.nrcs.usda.gov.

Reference Area – sites that because of their condition and degree of function represent the ecological potential or capability of similar sites in an area or region; serve as a benchmark in determining the ecological potential of sites with similar soil, climatic, and landscape characteristics.

Riparian Area – a form of wetland transition between permanently saturated wetland and upland areas. These areas exhibit vegetation or physical characteristics reflective of permanent surface or subsurface water influence. Lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and shores of lakes and reservoirs with stable water levels are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil. Includes, but is not limited to, jurisdictional wetlands.

Scoping – External scoping is the early involvement of the interested and affected public. Internal scoping involves NPS decision-making on various aspects of the planning process.

Standard – is an expression of the physical and biological condition or degree of function necessary to sustain healthy ecosystems.

State Candidate Species - Include fish and wildlife species that the Department will review for possible listing as State Endangered, Threatened, or Sensitive. A species will be considered for designation as a State Candidate if sufficient evidence suggests that its status may meet the listing criteria defined for State Endangered, Threatened, or Sensitive. WDFW Policy M-6001

State Endangered Species – Any species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state. WAC 232-12-297, Section 2.4.

State Sensitive Species – Any species native to the state of Washington that is vulnerable or declining and is likely to become endangered or threatened throughout a significant portion of its range within the state without cooperative management or removal of threats. WAC 232-12-297, Section 2.6

State Threatened Species – Any wildlife species native to the state of Washington that is vulnerable or declining and is likely to become endangered or threatened throughout a significant portion of its range within the state without cooperative management or removal of threats. WAC 232-12-297, Section 2.6

Sublease – The act of a permittee entering into an agreement that either (1) allows someone other than the permittee to graze livestock on the public lands without controlling the base property supporting the permit or (2) allows grazing on the public lands by livestock that are not owned or controlled by the permittee. CFR 43 Part 4100.0-5.

Trend – The direction of change in ecological status or resource value rating observed over time.

Tributary – A stream that empties into and contributes its waters to another stream.

Uplands – lands that exist above the riparian/wetland area, or active flood plains of rivers and streams; those lands not influenced by the water table or by free or unbound water; commonly represented by toe slopes, alluvial fans, and side slopes, shoulders and ridges of mountains and hills.

Water Right – is a legal authorization to use a certain amount of public water for specific beneficial purposes. Washington State law requires certain users of public water to receive approval from the state prior to actual use of the water. Approval is granted in the form of a water right permit or certificate. In addition to state authorized water rights, Washington recognizes valid water right claims and federal reserved water rights.

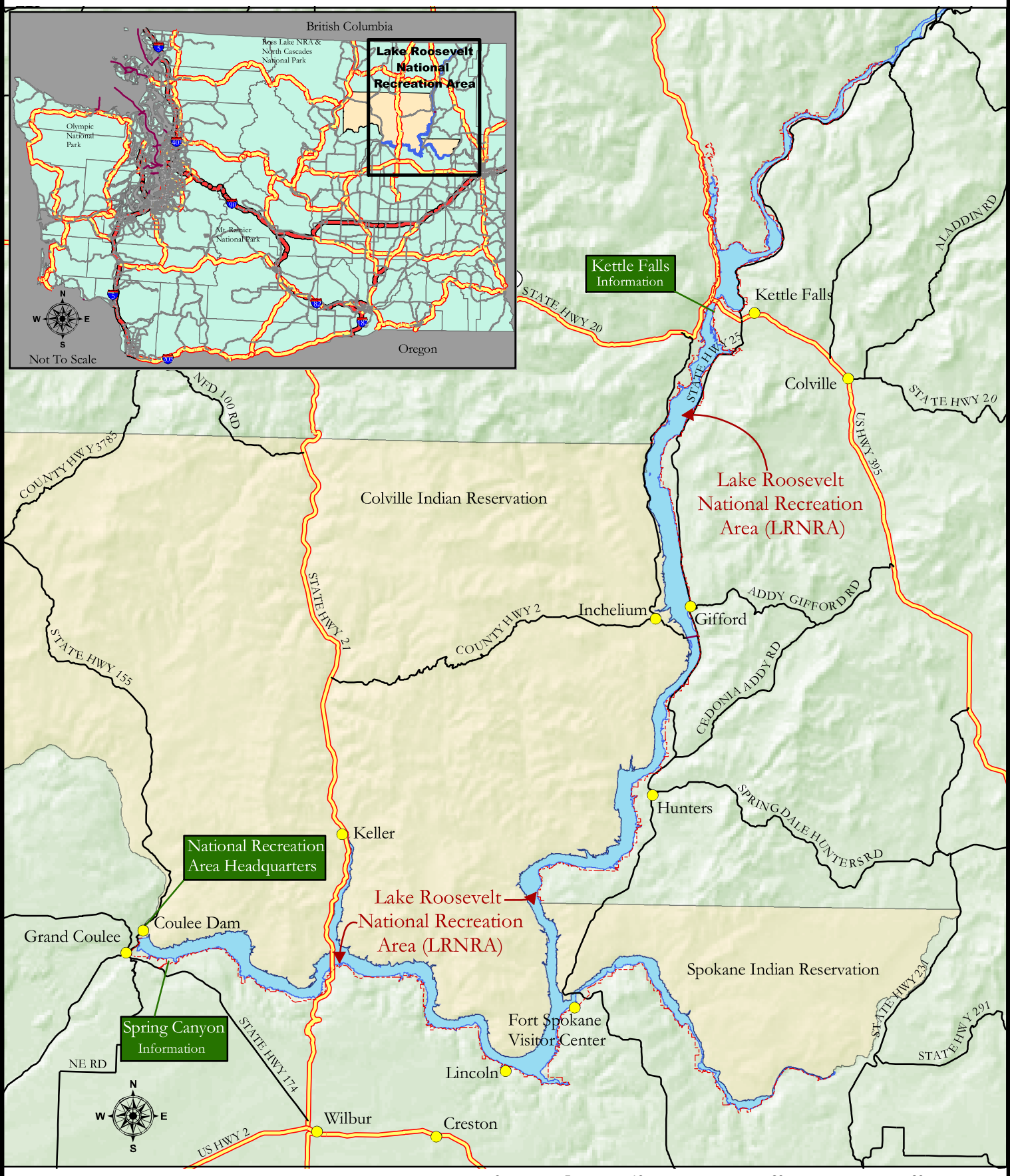
Water Right Certificate – is issued by the Washington Department of Ecology to certify that water users have the authority to use a specific amount of water under certain conditions. These conditions are based on beneficial use of water under your water right permit. The water right certificate is a legal document recorded at your county auditor's office. The certificate completes the process of obtaining your water right. Once a certificate is issued, no expansion is allowed under the water right.

Water Right Claim – is a statement by the property owner regarding a water use not authorized by a permit or certificate. A claim may represent a valid water right if it describes a surface water use that began before 1917 or a ground water use that began before 1945, and the water use has been continuous.

Water Right Permit – is permission given to water right applicants by the state to develop a water right. Water rights are developed when water right applicants follow the provisions outlined in their permit, using water for the purposes and up to the limits stated in the permit. Water right permits remain in effect until the water right certificate is issued, if all terms of the permit are met, or the permit has been canceled.

Wetland – Lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface.

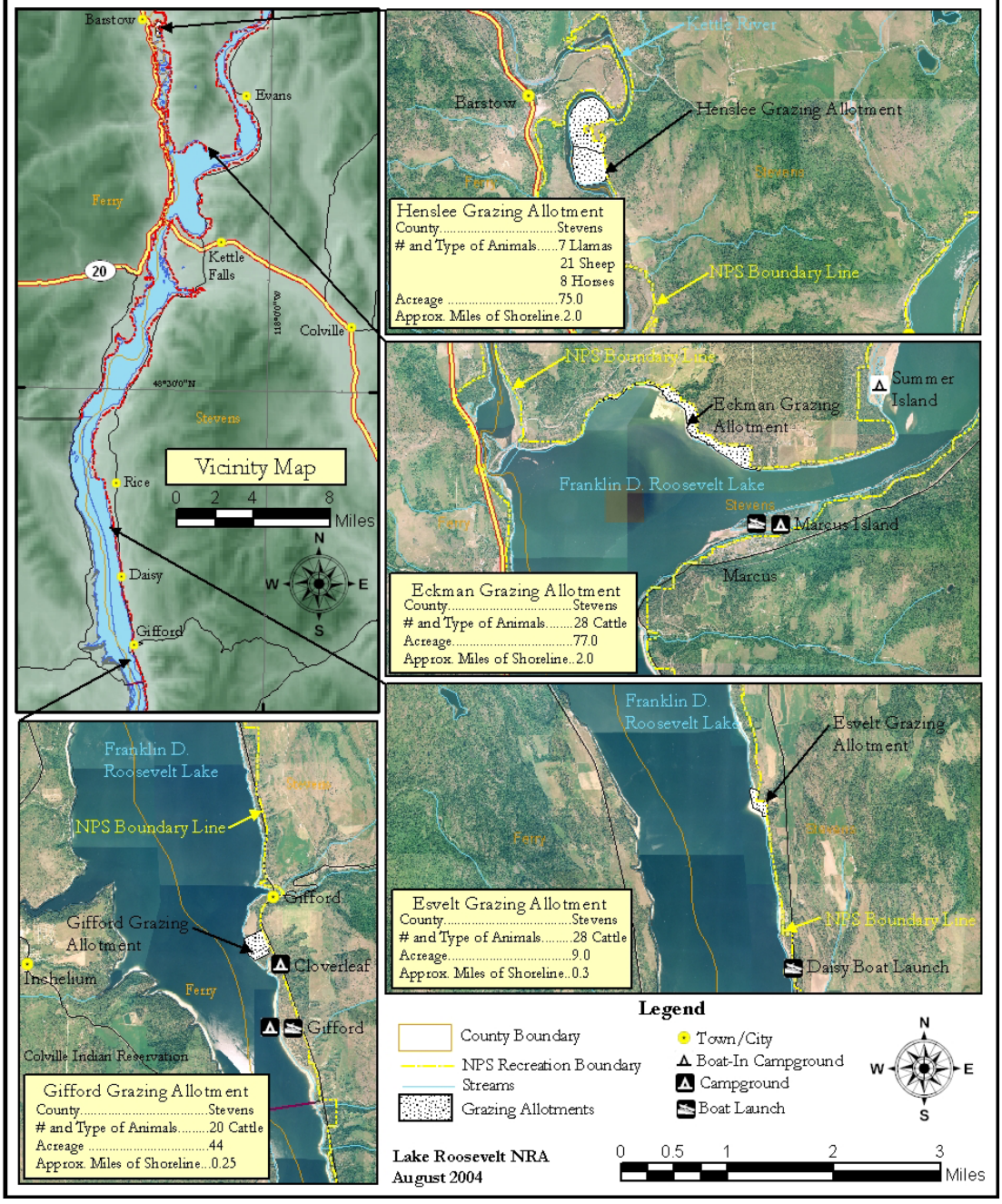
Figure 1- Lake Roosevelt National Recreation Area Location Map



Lake Roosevelt National Recreation Area
Washington State

National Park Service
U.S. Department of the Interior

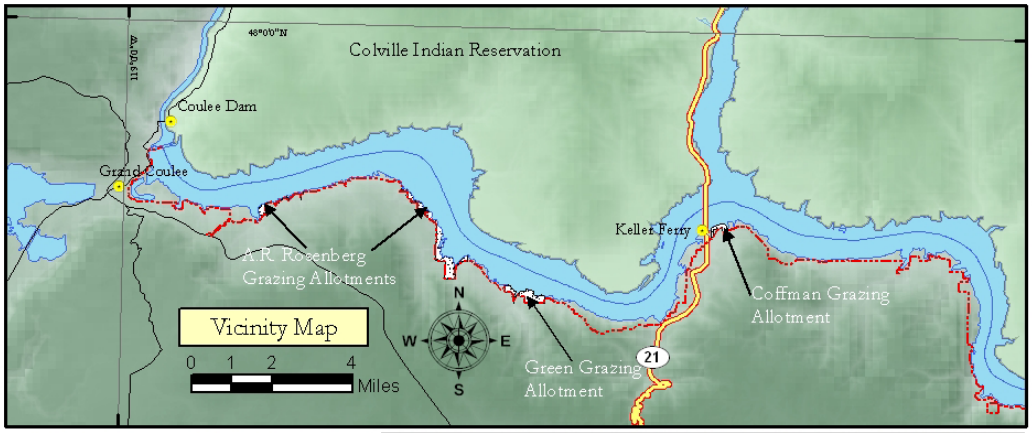
Figure 2- Description of Kettle Falls District Grazing Allotments (1997)

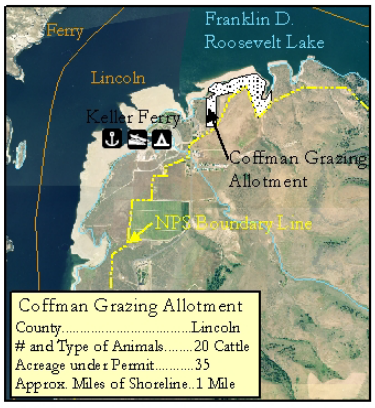


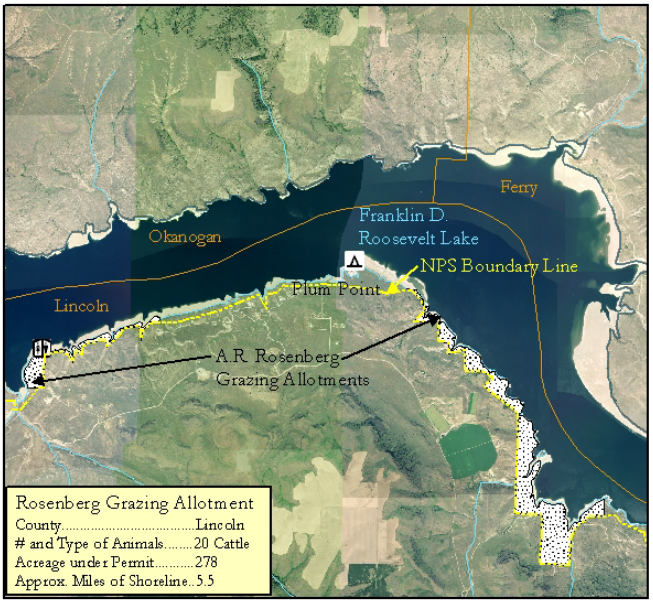
Lake Roosevelt National Recreation Area
Washington State

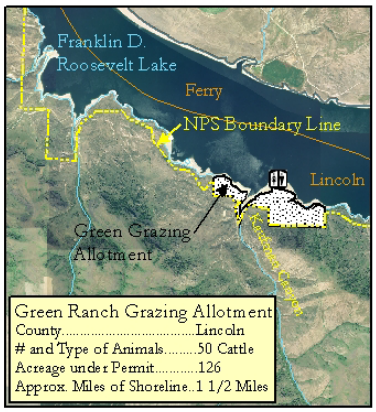
National Park Service
U.S. Department of the Interior

Figure 3-Description of Spring Canyon District Grazing Allotments (1997)









Legend

- County Boundary
- NPS Recreation Boundary
- Streams
- Grazing Allotments
- Town/City
- Boat-In Campground
- Campground
- Boat Launch
- Marina
- Floating Pumpout Stations

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Produced by:
LRNRA Planning Branch
August 2004

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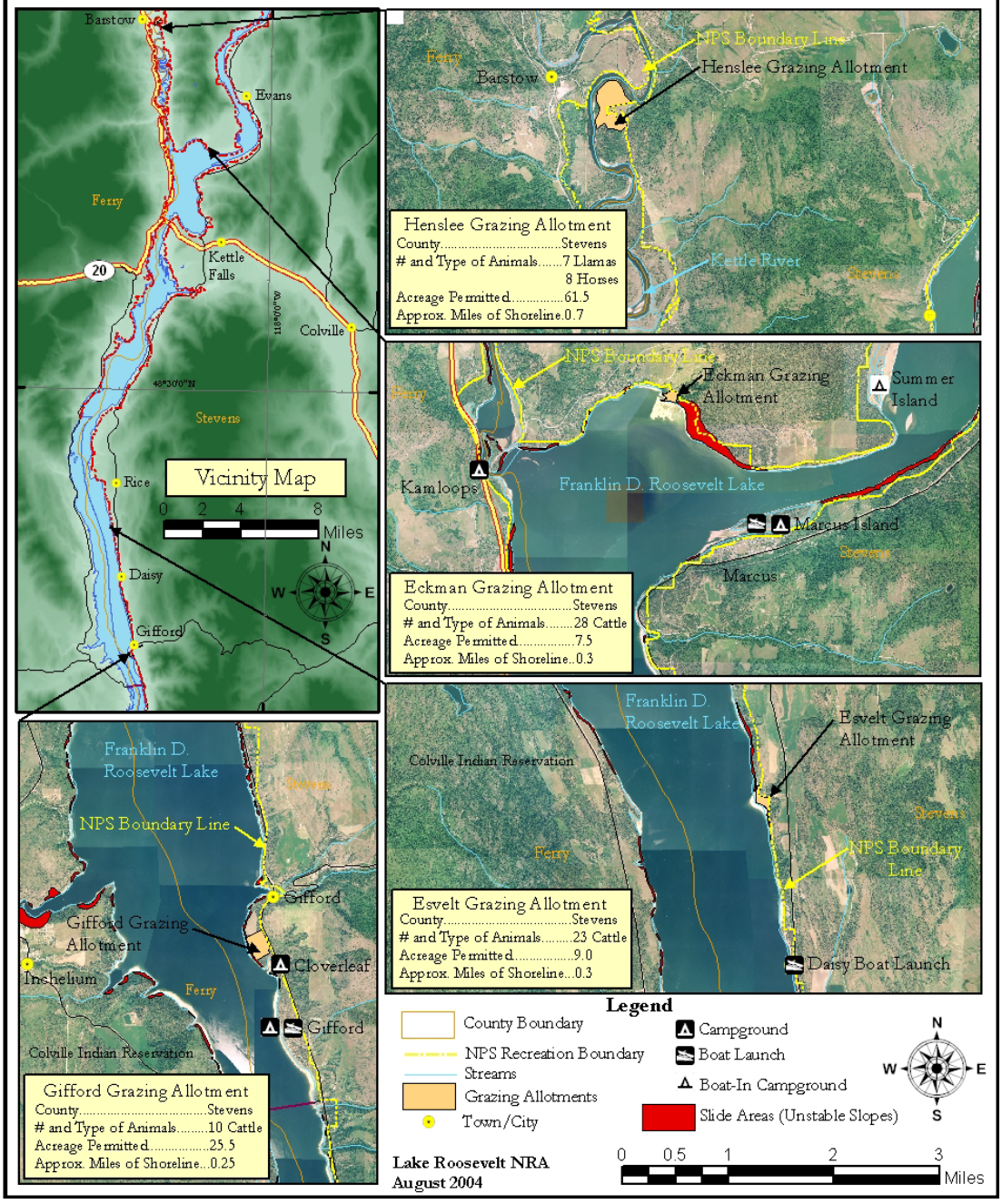
Miles

Lake Roosevelt National Recreation Area
Washington State

National Park Service
U.S. Department of the Interior

Figure 4-Proposed Kettle Falls District Grazing Allotments (Alternative 3)



Lake Roosevelt NRA
August 2004

Lake Roosevelt National Recreation Area
Washington State

National Park Service
U.S. Department of the Interior

Figure 5-Proposed Spring Canyon District Grazing Allotments (Alt. 3)

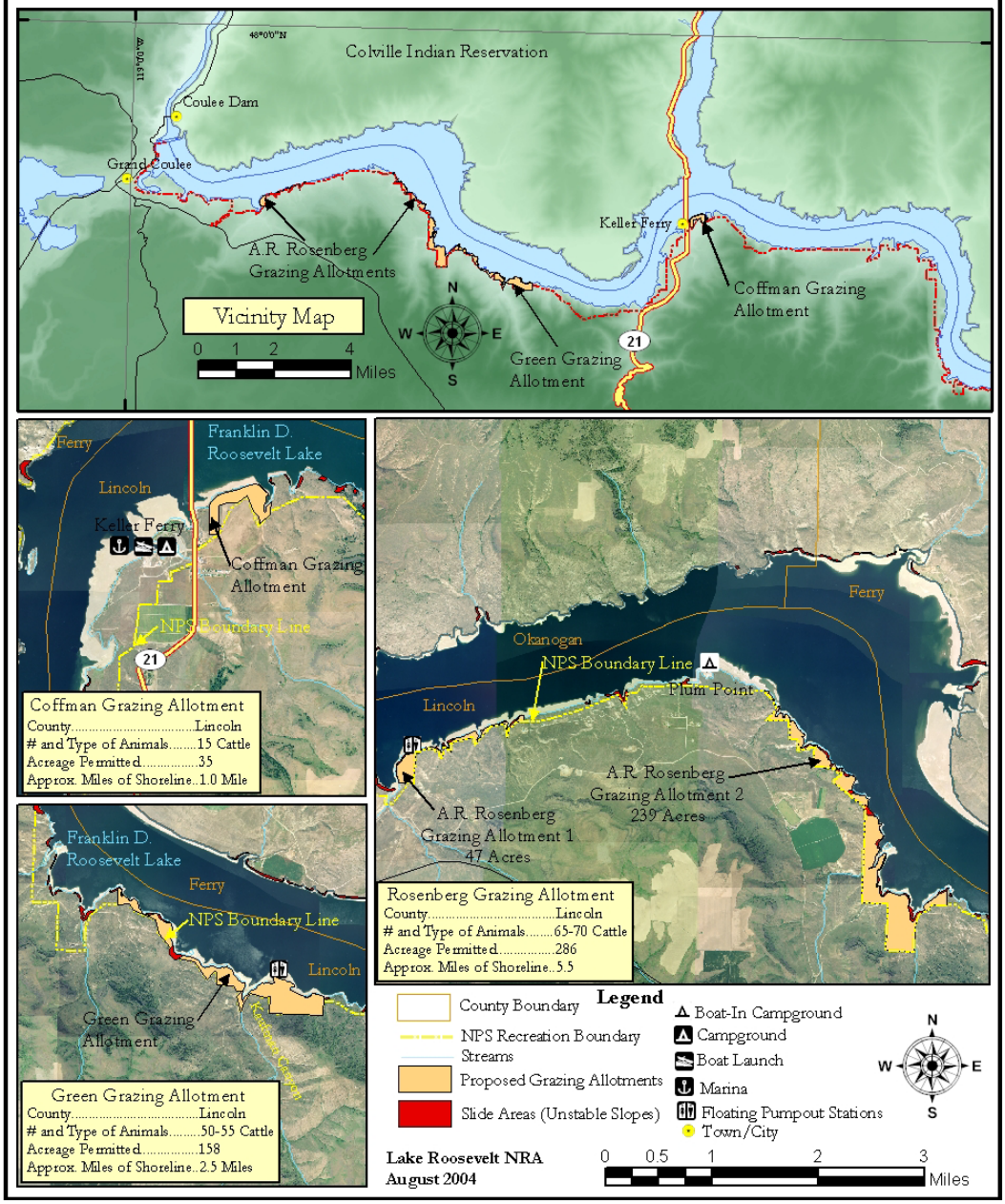
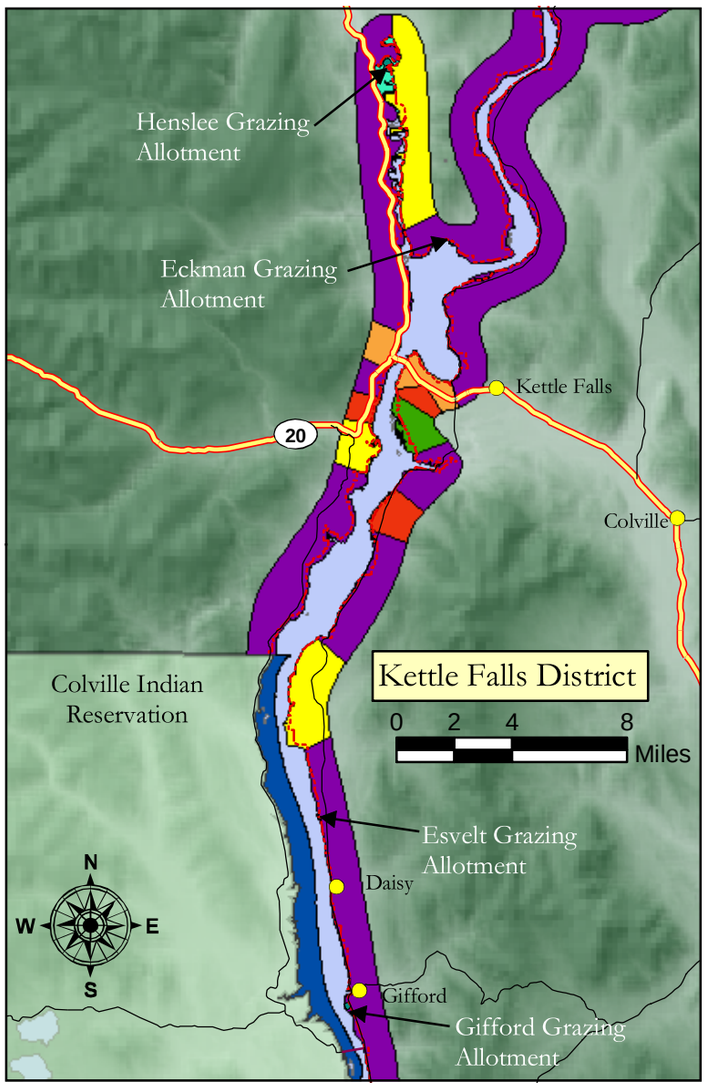


Figure 6 - Lake Roosevelt NRA Management Areas



Legend

- LRNRA Park Boundary
- Proposed Grazing Allotments
- Reservations
- Town

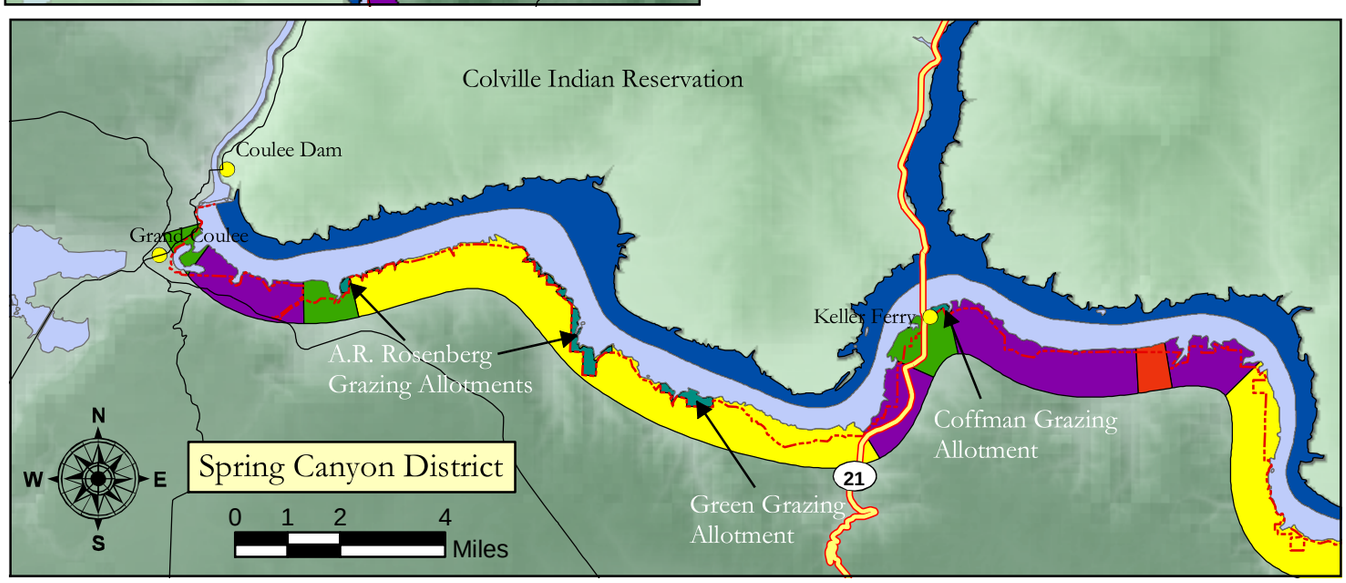
Management Areas

- Other
- Concentrated Recreation
- Developed Recreation
- Dispersed Recreation
- Historic and Interpretive
- Passive Waters
- Special Uses
- Tribal Waters

Road Classification

- Limited Access Highway
- Highway
- Local Roads
- Ramps

Lake Roosevelt NRA
August



Environmental Assessment Errata Sheets

Livestock Management Plan

Lake Roosevelt National Recreation Area
Washington State

The following errata should be attached to the Draft Lake Roosevelt National Recreation Area Livestock Management Plan and Environmental Assessment (LMPEA). The combination of the LMPEA and these errata, prepared in response to public comments on the LMPEA, form the complete and final record of the Finding of No Significant Impact.

The environmental assessment was available for public review and comment for a 45-day period from August 23 through October 7, 2004. The comments received were analyzed to determine whether any new issues, reasonable alternatives, potential for significant impacts, or mitigation measures were suggested. The public comments received did not identify new issues, alternatives, or mitigation measures, nor did they correct or add substantially to the facts presented in or increase the level of impact described in the environmental assessment. Comments in favor of or against the proposed action or alternatives, or comments that only agree or disagree with National Park Service policy are not considered substantive. Substantive comments were received on the following topics: water access, water quality, noxious weeds, historic grazing use, public involvement, five party agreement, and alternatives. Public comments received resulted in clarification of policy, alternatives, or procedures and did not provide substantive information to change the plan's purpose, goals, objectives, selected alternative, and environmental impact analysis.

Changes to the environmental assessment are outlined below in Part I. Language that is changed or added is identified by italics. The page number refers to the draft document that was reviewed by the public. A summary of public comments and park responses is described below in Part II.

Part I: Plan and EA Clarifications and Additions.

Section 5.3 Alternative 2
Page 8 Text reads: This alternative is a summary of the combined plans.
Change made reads: *This alternative is a summary of the combined plans with some modifications*.

Page 8 language added: *This alternative modifies the permittee plans and considers only NPS lands.*

Page 8, Table 1.
Language added under the Season of Use column for Green and Rosenberg #2: *Two months in the Fall.*

Section 5.4 Alternative 3.
Starting at page 8 several additions were made to the description of alternative 3 for clarification and are described below.

Page 8 language added: *It is the intent of this alternative to work closely with the permittees and other land managers in the state to determine the best strategies to accomplish the objectives of this livestock management plan.*

Page 9 text reads: A monitoring program would be developed to assess the effectiveness of management actions and evaluate changes to natural and cultural resource conditions due to livestock grazing.
Change made reads: A monitoring program will be developed and *implemented by park staff* to assess the effectiveness of management actions and evaluate changes to natural and cultural resource conditions due to livestock grazing.

A table describing alternative 3 was added for clarification. This information was already present in the plan under Appendix B., the executive summary and the body of the text. The table is almost identical to that describing alternative 2, with the exception of the season of use and use level columns.

Table 2. Description of Alternative 3. Actively Monitor and Manage Grazing Activities on Lake Roosevelt National Recreation Area Lands.

Allotment	***NPS Acres***	***Key Species ****	***Season of Use***	***Use Level by Weight or Height***	***** Total Livestock***	***AUM use on NPS***
Henslee	*59*	*POPR and BRTE*	*See Appendix B for fields with native bunchgrasses.*	*50% Spring 60 % Fall*	*8 horses 7 llamas*	*16.4*
Eckman	*14.3*	*POPR and ELRER*	*See Appendix B for fields with native bunchgrasses.*	*50% Spring 60 % Fall*	*64 cattle*	*4.9*
Esvelt	*9*	*BRTE and POBU*	*Use may be delayed until wetlands are restored.*	*50% Spring 60 % Fall*	*23 cattle*	*1.8*
Gifford	*44*	*ELIN*	*See Appendix B for fields with native bunchgrasses.*	*50% Spring 60 % Fall*	*10 cattle*	*26*
Coffman	*35*	*Crested Wheatgrass (intro. bunchgrass)*	*See Appendix B for fields with native bunchgrasses*	*50% Spring 60 % Fall*	*15 cattle*	*Approx. 25*
Green	*225*	*Perennial bunchgrass, Bitterbrush*	*April 1st to May 31st. Up to two months in the Fall.*	*50% Spring 60 % Fall*	*50-55 cattle*	*32*
Rosenberg #1 Spring Cany.	*47*	*Perennial bunchgrasses*	*April 1st to May 31st. May not use all AUMs per season.*	*50% Spring 60% Fall*	*15 cattle*	*5*
Rosenberg #2 Shaw/ Neal Canyon	*244*	*Bunchgrasses, annual grasses, bitterbrush*	*April 1st to May 31st. Up to two months in the Fall.*	*50% Spring 60 % Fall*	*50-55 cattle*	*40*

** POPR: kentucky bluegrass, BRTE: cheatgrass, ELRER: quack grass, POBU: bulbous bluegrass, ELIN: intermed. wheatgrass.*
***** The total livestock number is for private and park land. There is no fencing to separate the two land types on most allotments***

Page 9 language added: *Allotment size will not increase from that which is currently being used. In most cases allotments are bordered by private lands, the lake, roads, or undesirable grazing lands.*

Page 9 language added: *Season of use will be in the Fall and Spring. The exact timing and dates will vary depending on environmental conditions (dry, wet, or normal precipitation year) and vegetative growth for each allotment. District Rangers will need to work directly with the permittees to determine livestock use during low production years. Please refer to Appendix B.*

Page 9 language added: *Livestock numbers would stay the same as they are today, but may change over time if monitoring proves a need to do so.*

Page 9 text reads: Figures 2 and 3 depict 1997 special use permit information.
Change made reads: Figures 2 and 3 depict 1997 special use permit information*, which show differences in park permit data from actual on-the-ground practices of today.*

Page 9 text reads: Most actions would be implemented immediately, but others such as Level II monitoring and upland watering source developments would be phased in over time.
Change made reads: Most actions would be implemented immediately, but others such as Level II monitoring, upland watering source developments *and new fence construction* would be phased in over time.

Page 9 language added to clarify the 50%/60% native bunchgrass grazing policy: *These guidelines are currently followed by the Bureau of Land Management and NRCS in the state of Washington.*

Page 9 subheading for alternative 3 text reads: Sensitive Habitat Improvements
Change made reads: *Range* Improvements

Section 5.4 Alternative 3, Range Improvements
In the document many clarifications are made to the importance of park and permittee cooperation.

Page 9 language added: *Park staff will work with individual permitees.*

Page 14 text reads: Costs of improvements will be borne by the permittees and/or the park as agreed to in individual allotment management plans. Please refer to Appendix A. #11.
Change made reads: *Costs of improvements will be borne by the park and permittees as agreed to in individual allotment management plans or cooperative agreements. Please refer to Appendix A. #11.*

Section 5.4 Alternative 3, Treatment of Noxious Weeds
Page 14 language added: *When chemical treatments are made the application method will be the least invasive to the resources. For example: off road vehicles will not be used outside development zones.*

Section 5.4 Alternative 3, Inventory and Monitoring
The paragraph describing the proper functioning condition assessment was moved to Section 6.4.7 Current Conditions of Wetlands. The assessment was an evaluation of the resources (current condition) and not specific to actions described in alternative 3.

Page 15 text reads: It is important to remember this monitoring regime applies only to federal National Park Service lands.
Change made reads: It is important to remember this monitoring regime applies only to federal National Park Service lands *and will be conducted by park personnel*.

Page 15 language added: *The rapid assessment form and impact analysis form are independent of each other and will give resource managers a snapshot in time of what is happening on the ground. Level I monitoring is not intended to determine rangeland health, but rather assess any major changes.*

Page 15 language added: *Line transects will be conducted to give adequate representation of the resource conditions. Larger and more diversified allotments may require more transects.*

Page 15 language added: *Park natural resource staff will determine the basic monitoring criteria and method. Once the baseline is established then the District Rangers will be responsible for implementing the program.*

Section 5.4 Alternative 3, Administration
Page 16 language added: *District Rangers will be the primary field contact for the permittees.*

Section 6.4.1, Water Resources – Access
Page 22 text reads: In the process of accessing water, removal of native vegetation and increases in algae along shorelines, stream banks, and stream/lake confluences is occurring, which can result in increased water temperatures, reduced levels of dissolved oxygen, channel erosion/instability, and increased stream/lake sediment loading.
Change made reads: In the process of accessing and drinking water, removal of native vegetation *through hoof action along shorelines, stream and lake banks, and stream/lake confluences may occur*, which *can potentially cause soil erosion, impact water quality*, *and damage cultural resources particularly during water draw downs. Feces deposited in these areas may also impact natural resources and visitor experiences. Trail braiding to water sources and livestock use down steep lake banks also has been documented.*

Page 23 Columbia Basin Project Act.
Text reads: There are no irrigation districts defined for the area north of Grand Coulee Dam. All of Lake Roosevelt NRA is north of Grand Coulee Dam, including the NPS livestock allotments. According to the Bureau of Reclamation, the National Park Service's main management responsibility is for recreation purposes, and has no administrative responsibility for Columbia Basin Project purposes, including access for agriculture.
Change made reads: There are no irrigation districts defined for the area north of Grand Coulee Dam *(Honey, 2003).* All of Lake Roosevelt NRA is north of Grand Coulee Dam, including the NPS livestock allotments. *This does not mean that historic farming and agriculture use can't occur outside of the 1937 Act irrigation districts.* The National Park Service's management responsibility *lies within the recreation zone of the Lake Roosevelt Management Area. The Bureau of Reclamation has exclusive jurisdiction within the reclamation zone and management responsibility for Columbia Basin Project purposes (Lake Roosevelt Cooperative Management Agreement, 1990).*

Section 6.4.2 Noxious Weeds
Page 23 language added: *Noxious weeds may also spread into the park unintentionally through park visitor use and from adjacent lands.*

Page 24 language added to explain park's involvement in the biocontrol program.
Language added: *Two allotments are currently in this program, Henslee and Gifford. More allotments may come into the program in the future.*

Section 6.4.7 Wetlands
Page 28 text reads: Non-evaluated wetlands are believed to occur within the Eckman, Esvelt, Green, and Rosenberg allotments.
Change made reads: *Un-mapped and unevaluated* wetlands are believed to occur within the Eckman, Esvelt, Green, and Rosenberg allotments.

Text was transferred from Section 5.4 monitoring description to page 29 discussion on riparian assessment. Page 29 language was added to explain preliminary results of the proper functioning condition assessment.
Language added: *The interdisciplinary team conducted wetland delineation evaluation on the Henslee allotment, and it was determined that no wetlands exist. Preliminary findings determined that the stream surveyed east of Neal Canyon within the Rosenberg allotment was functional at the upper reach and functional-at risk in the lower reach. The surveyed riparian reach of Kaufman Canyon within the Green allotment was functional. The stream surveyed within the Eckman allotment was found to be non-functional (stream was incised, head-cutting up the channel, former wetland areas were dry and providing an environment for invasive exotic plant species to establish). It was recognized that some of the channel incision was due to lake level flucuations. A final report of findings on all the allotments is forthcoming.*

Section 7.1 Alternative 1 Impact Analysis
Appropriate language was added to the impact analysis section to clarify impacts to natural and cultural resources are *potential* or *may occur* due to livestock grazing. Monitoring will play a large role in determining these potential future impacts.
Page 39 text under "visitor experience" reads: Livestock would continue to access the lakeshore for watering purposes and cause associated impacts.
Change made reads: Livestock would continue to access the lakeshore for watering purposes and *potentially* cause associated impacts.

Appendix C
Level I Inventory and Monitoring forms were modified to more clearly explain the methodology used for park ranger application. The main change involves the resource management staff establishing the initial transects and providing the baseline information on the forms for rangers to use for future monitoring.

Part II: Summary of Public Concerns and Responses

The following is a summary of public comment submitted on the Lake Roosevelt National Recreation Area Livestock Management Plan and Environmental Assessment (LMPEA). Fourteen letters were received through October 25, 2004. One form letter with 280 names attached was received. Public responses were received by hand, email, and post. This section of the errata provides a summary of the main topics of concern expressed in the public comments received, and a response to each concern.

Water Access
Comment: State water law permits exemptions to permitting for watering livestock.
Response: The park recognizes that stock watering is a valid use of the park's waters and that this use under certain conditions is exempt from groundwater permitting, but that same use must not contribute to degradation of established water quality standards. In Kim vs. Ecology-2003, the Washington State Court of Appeals clarified the RCW 90.44.050 permitting exemptions and determined that "…any withdrawal of public ground waters for stock-watering purposes applies to water farm animals drink in the course of grazing or otherwise being raised under natural conditions." The intent of "natural conditions" is meant to apply to open range grazing as opposed to feed lots.

Comment: The most important permittee need is to provide water for livestock. We do not want restrictions placed on water use that would be economically unfeasible.
Response: We recognize the most important need for the permittees is to provide water for livestock. We are committed to work together with each permittee to achieve this goal. We understand that range improvements such as upland water source development must be economically feasible so that operations can continue. The key will be for park staff to work cooperatively with the permittees. Each allotment has its own unique set of circumstances regarding water needs. Protecting the resources and visitor

experience while at the same time allowing livestock watering will be a coordinated management effort with each permittee and appropriate agencies or organizations.

Comment: The Columbia Basin Project Act of 1935 mandates the NPS to manage Lake Roosevelt for the permanent settlement of farm families.
Response: The Columbia Basin Project Act refers to lands where irrigation districts were established, none of which are north of the dam. This Act does not preclude farm families above the dam from continuing their farming operations nor does it specifically address them because those lands are not within the boundaries of the Columbia Basin Project irrigation districts. The Five-Party Agreement states, the "purpose of the Agreement is to allow the parties to coordinate the management of the Lake Roosevelt Management Area, and to plan and develop facilities and activities on Lake Roosevelt and its freeboard lands. The parties acknowledge and recognize management of the LRMA is subject to the right of the Bureau of Reclamation to accomplish the purposes of the Columbia Basin Project Act."

Water Quality
Comment: Livestock use is not the only cause for water quality degradation.
Response: The park concurs that livestock use in and adjacent to water sources is not the only cause for water quality degradation, but it is the focus of this plan. It is outside the scope of this plan to evaluate all the potential impacts various uses may have on park resources. One of the recommendations of the plan is to implement a monitoring program that would document and help evaluate potential water quality impacts from livestock use. Water quality monitoring would be coordinated with the State Department of Ecology.

Noxious Weeds
Comment: Livestock are not the only vectors of noxious weed infestations. Park should work with the permittees and other agencies with technical expertise to control weeds.
Response: The park realizes that weeds are also spread through natural means such as wind, water, and wildlife. These are factors outside the control of park management. The focus of this plan is to manage livestock use within the allotments, including control of noxious weeds. The park is currently working with the permittees and local agencies to control weeds and is described under Section 6.4.2 of the plan. We concur that a joint effort by the NPS, local weed control boards, and permittees would go a long way in controlling noxious weeds. This partnership effort is the intent of alternative 3 as identified in the plan.

Historic Grazing Use
Comments: Livestock use has occurred for generations on the lands surrounding Lake Roosevelt NRA. Elimination of grazing will economically impact livestock producing families and will force us to sell our private land to developers.
Response: Development of the Livestock Management Plan validates that grazing is a legally acceptable practice on Lake Roosevelt NRA lands as long as natural and cultural resources are not significantly impacted, the visitor enjoyment is lasting for future generations, and the scenic vistas along the shoreline remain undeveloped. The park recognizes the historical value of livestock grazing within and adjacent to Lake Roosevelt NRA lands. We concur that open space ranch lands are more desirable for the visitor experience and resource protection than would be developments. We are committed to protecting this important value in cooperation with the permittees.

Public Involvement
Comment: The permittees feel they have not been adequately informed by the NPS or the Department of the Interior on the status of the LMPEA.
Response: The livestock permittees have been involved in the planning process for over two years when initial efforts began to develop a Livestock Management Plan. Over the past 18 months scoping meetings were held and the public comment period for the plan was open for more than the required 30 days. Section 8 of the plan

details the Consultation and Coordination performed during the planning process. An increase in communication between staff and permittees is an action common to all alternatives and is critical to implementing the proposed actions identified in Alternative 3.

Five Party Agreement

Comment: The Tri-party agreement states that Lake Roosevelt is not intended to be managed under the guidelines of the National Park System.

Response: We believe that the agreement you are referring to is the "Tri-Party Agreement of 1946 which was superceded by the Five-Party Agreement of 1990." This agreement is between the Bureau of Reclamation, Bureau of Indian Affairs, the National Park Service, the Confederated Tribes of the Colville Reservation and the Spokane Tribe of Indians. The Agreement specifically states under I. Recitals, I.

> "Whereas, the Coulee Dam National Recreation Area is an existing unit of the National Park system and subject to all NPS laws, regulations, policies and guidelines…"

Alternatives

Comment: Appendix B. Technical Range Note 34 describing 50% grazing use in the growing season and 60% use in the dormant season differs considerably from recent range science advocating heavier use and rest cycles.

Response: Appendix B. of the plan describes the management guidelines for native bunchgrasses for eastern Washington as developed by the Natural Resource Conservation Service in the Ephrata and Spokane offices. The guidelines among other factors state that grazing should be no more than 50% of available forage during growing season, and graze no more than 60% when dormant. These guidelines are currently followed by the Bureau of Land Management and NRCS in the state of Washington. The BLM Washington State Natural Resources Plan and Environmental Impact Statement calls for this type of grazing use. The 50%/60% use is based on accepted science and has a demonstrated track record of at least 24 years in Eastern Washington.

Comment: Acres grazed per AUM is not a reliable role in determining stocking rate.

Response: The park recognizes that range condition should be one of the factors in deciding stocking rates. The monitoring program is a major component in the proposed alternative. Through monitoring many factors will be evaluated including health of the range condition, cultural resource conditions, natural resource conditions and in particular wetland resources, and the visitor experience.

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PACIFIC WEST REGIONAL OFFICE Memorandum

L7617 (PWRO-P)

FEB 11 2005

Memorandum

To: Superintendent, Lake Roosevelt National Recreation Area

From: Regional Director, Pacific West Region

Subject: Environmental Compliance for Livestock Management Plan

The approved *Finding of No Significant Impact* for a park-wide livestock management plan (prepared pursuant to P.L. 107-63) is attached. Our understanding is that future projects which may be needed to implement the plan (and not considered in detail previously) will be subject of appropriate environmental compliance on a case-by-case basis.

To complete this particular compliance effort, when the park issues its notice of the decision, all recipients of the supporting environmental assessment (EA) should be provided a copy of the Errata (and instructed to attach the Errata to the original EA so as to comprise a full and complete record of the environmental impact analysis and conservation planning undertaken).

Jonathan B. Jarvis

Attachment

cc:
PWRO-DDR

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FINDING OF NO SIGNIFICANT IMPACT

LIVESTOCK MANAGEMENT PLAN

Lake Roosevelt National Recreation Area
Washington

The Department of the Interior, National Park Service (NPS), has prepared this Finding of No Significant Impact (FONSI) on the Livestock Management Plan and Environmental Assessment (LMPEA) for Lake Roosevelt National Recreation Area (LRNRA), Washington. This FONSI is a statement of the decision made, other alternatives considered, public involvement in the decision making process, the basis for the decision, the environmentally preferred alternative, and measures to minimize environmental harm.

Further planning and compliance will be required to implement some of the proposals contained in the LMP. Due to the cooperative nature of how Lake Roosevelt is managed, many issues will require continued coordination and consultation with the managing partners (Bureau of Reclamation, Bureau of Indian Affairs, Colville Confederated Tribes, and Spokane Tribe) and other interested parties.

PURPOSE AND NEED

The purpose of the Lake Roosevelt NRA Draft LMPEA is to manage grazing activities that were specifically authorized by federal law in 2001 in a manner that is consistent with the National Park Service mission and policies, and the park's purposes. This plan is only relevant to the land within Lake Roosevelt NRA.

In November 2001 Public Law 107-63, Section 114 specifically addressed grazing authority at Lake Roosevelt NRA. The law states that:

> "any federal lands included within the boundary of Lake Roosevelt NRA ... that were utilized as of March 31, 1997 for grazing purposes pursuant to a permit issued by the National Park Service, the person or persons so utilizing such lands as of March 31, 1997 shall be entitled to renew said permit under such terms and conditions as the Secretary may prescribe for the lifetime of the permittee or 20 years, whichever is less."

National Park Service Management Policies 2001, Section 8.6.8.3 states that: "Each park that allows domestic or feral livestock ... will prepare a livestock management plan designed to sustain and protect park resources and values ... particular attention will be given to protecting wetland and riparian areas, sensitive species and their habitats, water quality, and cultural resources." Lake Roosevelt National Recreation Area does not have a Livestock Management Plan and is the sole manager of grazing use within its boundaries. Livestock grazing and its residual impacts have the potential to effect visitor experiences, water quality, wildlife forage availability, noxious weed control, cultural resource sites, riparian and upland vegetation health, soil and lake bank stability, and a scenic and clean shoreline.

Director's Order #53: Special Park Uses under section 3.5 states that "*Superintendents will establish permit conditions that protect NPS and public interests, including park resources and values. Special*

park uses may be authorized for a period of not-to-exceed five years." The Livestock Management Plan and Environmental Assessment must be completed before special use permits are renewed.

SELECTED ACTION

Lake Roosevelt National Recreation Area will implement Alternative 3, which is the action that best satisfies the objectives identified in the LMP. In accordance with NPS management policies, alternative 3 will protect natural and cultural resources while allowing livestock grazing under a special use permit and associated terms and conditions.

The selected action will actively monitor and manage grazing activities. This alternative will renew the livestock grazing special use permits for all permittees who specifically expressed interest in writing in 2003 to continue grazing activities within Lake Roosevelt NRA. Permit terms and conditions will be revised and implemented. It is the intent of this alternative to work closely with the permittees and other land managers in the state to determine the best strategies that will accomplish the objectives of the livestock management plan. Best management practices will be followed and strategies to control noxious weeds will be developed that involves the permittees.

A monitoring program will be developed and implemented by park staff to assess the effectiveness of management actions and evaluate potential significant changes to natural and cultural resource conditions due to livestock use.

Allotment acreage will be adjusted using GIS to reflect lands actually used for grazing, excluding landslide areas. Allotment size will not increase from that which is currently being used. In most cases allotments are bordered by private lands, the lake, roads, or undesirable grazing lands.

Season of use will be in the Fall and Spring. The exact timing and dates will vary depending on environmental conditions (dry, wet, or normal precipitation year) and vegetative growth for each allotment. District Rangers will work directly with the permittees to determine livestock use during low production years.

Livestock numbers will stay the same as they are today, but may change over time if monitoring proves a need to do so. Grazing fees will be charged according to 43 CFR 4130.7-1.

Most actions will be implemented immediately, but others such as Level II monitoring, upland watering source developments, and new fence construction will be phased in over time. Specific projects such as wetland restoration and range improvements will require further planning and NEPA compliance on a case-by-case basis.

OTHER ALTERNATIVES CONSIDERED

In addition to the proposed action, two other alternatives, the "no action" alternative and "moderately manage" alternative were considered. The no action alternative would renew the grazing special use permits that expired in 1997 as is, and would not address specific issues identified in this plan, nor would this alternative help the park achieve the stated purpose, goals, and objectives for livestock management within Lake Roosevelt NRA. Annual livestock grazing allocations, acreages, and use periods would remain unchanged. Livestock would continue to access the lakeshore for watering purposes and in the process potentially impact natural and cultural resources, and visitor experiences. Livestock would not be excluded from sensitive natural resource areas and cultural sites. No formal monitoring program for natural and cultural resources would be initiated. Control and monitoring of noxious weeds within the allotments would not be a priority. Grazing fees would continue to be charged as in the past, without

adjusting for the livestock carrying capacity, and environmental factors influencing annual vegetative growth in each allotment.

The moderately managed alternative would renew the grazing special use permits that expired in 1997 with some modifications, but no changes to the terms and conditions of the permit. In September 2002 most of the permittees submitted plans for livestock grazing within the park. This alternative is a summary of the combined plans with some modifications. Most of the allotments were treated as whole units (public and private land) when considering AUMs, number of livestock, season of use, and purpose of use. This alternative modifies the permittee plans and considers only NPS lands. Monitoring for desired range conditions and indicator species such as bitterbrush and bunchgrass would be conducted, which was not part of all the permittee plans submitted. Monitoring for weed conditions and trends is important in this alternative, however no method is outlined. This alternative proposes that the NPS and permittees meet periodically to discuss issues and concerns. Under this alternative livestock would continue to access the lake and riparian areas for watering purposes. Grazing fees would continue to be charged as in the past, without adjusting for the livestock carrying capacity in each allotment. Some of the issues and concerns identified in the livestock management plan that this alternative would not address include 1)shoreline and wetland preservation, 2) water quality protection, 3) sublease or transfer of special use permits, 4) cultural resource protection, 5) threatened and endangered plant and animal species protection, 6) soil erosion and compaction, 7) repairing, maintaining, and/ or building fences, and 8) visitor enjoyment.

BASIS FOR DECISION

After careful consideration of comments received from many individuals, agency personnel, and permittees throughout the planning process, including comments on the EA, the selected action best accomplishes national and park livestock management goals and objectives with the least environmental, cultural, and economic impacts. The selected alternative will not have a significant effect on the environment because measures will be taken to protect, reduce, restore, or mitigate any potential impacts livestock grazing may incur on the environment. These measures are outlined in this document on Table 1. In addition, the selected alternative includes a monitoring program that will identify potential impacts. This information will be used to develop management actions to prevent significant impacts. The special use permit terms and conditions have specific guidelines the permittees must follow in order to keep their grazing privilege. For example: #7 of the Terms and Conditions states that:

> "All or a portion of the permit can be suspended or revoked when grazing activities have a documented detrimental and unacceptable affect on water quality, soils, plant composition, wildlife, or cultural resources that cannot be mitigated through best management practices."

Implementation of best management practices outlined in the plan also will prevent any significant effect on the environment.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The alternative which causes the least damage to the biological and physical environment, and that best protects, preserves, and enhances historic, cultural, and natural resources is Alternative 3. This Alternative will meet environmental and grazing policy mandates. Alternatives 1 and 2 will fall short of meeting both environmental and grazing policy mandates.

MEASURES TO MINIMIZE ENVIRONMENTAL HARM

Implementation of the selected action, including best management practices, will mitigate any potential cumulative impacts on the environment due to livestock grazing. Upland water development and fencing projects will be conducted where necessary and appropriate to offset exclusion of livestock watering

from selected lakeshores and riparian areas. These projects will include complete NEPA compliance and cooperation with the permittees, appropriate environmental agencies, and other affected parties. Implementation of the selected action will avoid or develop strategies to minimize potential adverse impacts on wetlands, endangered or threatened species, or critical habitat of such species. In addition, measures will be incorporated to prevent potential adverse effects to cultural resources through avoidance or mitigation measures. All practicable measures to avoid or minimize environmental impacts that could potentially result from implementation of the selected action were identified in the plan. The long term result will be a cumulative beneficial impact to the park's natural and cultural resources.

Table 1. Mitigation Measures

Resource	Mitigation Measure	Responsible Party
Minimize impacts to cultural resources	Measures to prevent potential adverse effects to cultural resources through avoidance include 1) conducting a more in depth cultural resource survey for each allotment as the consultation process progresses or when a range improvement project is proposed, and 2) developing avoidance stipulations for cultural sites during the Section 106 process. These stipulations may include, but are not limited to the following: • Fencing of cultural structures and/ or artifact sites; • Restrictions on livestock use within significant cultural sites. A monitoring program would include observation for any cultural resource damages. Grazing use would be assessed over time on cultural sites and best management practices would be implemented to mitigate any impacts occurring. If it is determined after further analysis and consultation that the cultural resources of a particular unit could not be adequately protected through implementation of the above or similar measures, then proposed activities would be substantially modified or cancelled. In the event that significant archeological or historic materials are discovered and determined to be at risk, grazing will be discontinued on that particular allotment, the area secured, and the SHPO and THPO notified as appropriate.	Cultural Resources Management, Compliance and Natural Resources Management
Minimize impacts to threatened and endangered species	Potential adverse impacts will be mitigated through identification and avoidance of sensitive species in each allotment. There are no known animal species that would be affected by livestock use. More surveys are needed	Compliance and Natural Resources Management

Resource	Mitigation Measure	Responsible Party
	within the allotments to determine the absence or presence of state listed species, such as the sagebrush lizard, pygmy rabbit, striped whipsnake, and Columbia spotted frog. Livestock do not graze during the winter within the park thus Bald Eagles and their roosts should not be adversely impacted. Surveys should be conducted to determine if there are any roosts near the allotments. Identified communal roosts will be avoided by establishing a 400-meter buffer as recommended by the Pacific Bald Eagle Recovery Plan. Identified sensitive plant species such as the Palouse milk-vetch and Nuttall's pussytoes will be protected. More field surveys are needed to determine distribution and density of these species within the allotments. Survey results, monitoring and consultation will determine proper grazing use within sensitive plant species habitat.	
Minimize impacts to air quality	Livestock use will not adversely impact air resources.	Compliance and Natural Resources Management
Minimize impacts to water quality	Impacts to water quality will be mitigated through range improvements such as fencing livestock away from wetland and riparian corridors at risk and popular visitor lakeshores, and providing upstream water sources. Monitoring will evaluate vegetation recovery and restoration efforts along riparian corridors which effects water quality. Any water quality monitoring efforts will include a fecal coliform bacteria indicator.	Compliance and Natural Resources Management
Minimize impacts to soils	Turning the livestock out at appropriate times will help reduce impacts to soils. Following best management practices as outlined in Appendix B. will reduce soil impacts through: 1) Proper grazing use - 50%/60%. 2) Short grazing periods 3) Rotate or defer grazing period if necessary	Compliance and Natural Resources Management
Minimize spread of noxious weeds	Noxious weed populations will be reduced through an active multi-party coordinated weed control program. Monitoring and mapping the effects of weed control efforts will be a main component of the program.	Compliance and Natural Resources Management, Maintenance

Resource	Mitigation Measure	Responsible Party
	It is acknowledged that under the preferred alternative, noxious weeds may still become established within the allotments as a result of wildlife movement, administrative and public access and disturbances, wind, and water borne seed introduced from adjacent weed-infested lands.	
Minimize impacts to birds	No known raptor nest trees exist within the allotments. Surveys need to be conducted to determine presence and location. The small size of many allotments and timing of grazing should have very few if any negative impacts to raptors. Waterfowl nesting areas will be identified and protected as part of a survey and plan implementation.	Compliance and Natural Resources Management
Minimize impacts to wetlands	As surveys and assessments are completed, any known wetlands within the allotments will be protected to the fullest extent possible. Wetlands that are at risk or in a non-functioning condition will be restored.	Compliance and Natural Resources Management

PUBLIC REVIEW AND CONSULTATION

Public comment was requested, considered, and incorporated throughout the planning process. The LMPEA was developed with advice and consultation from several individuals, agencies, and organizations. Initial scoping meetings were conducted in January and September of 2002 in Colville and Davenport, Washington to discuss implications of the 2001 Legislation. Scoping meetings were held with the grazing permittees in February and March of 2003 to identify livestock management issues specific to this plan. Scoping meetings with the permittees also were held in March, 2004. The Draft LMPEA was sent for cultural and natural resources review to the State Historic Preservation Office, the Confederated Tribes of the Colville Reservation, Spokane Tribe of Indians, the U.S. Fish and Wildlife Service, and the State Fish and Wildlife Department. Their comments were incorporated into the plan. Additional consultation will be conducted on specific projects on a case by case basis.

On August 23, 2004 the Draft LMPEA was distributed to 109 individuals and organizations for formal public review. Public distribution and notification of the comment period, August 23-October 7, 2004, occurred through websites, press releases, cd copies, hard copies, and letters. On September 9th and 13th press releases were distributed to announce open house meetings at Kettle Falls and Grand Coulee, WA for Sept. 21st and 22nd respectively. The complete plan, including maps was placed on the NPS Planning, Environment and Public Comment (PEPC) website and linked to the Lake Roosevelt NRA home page.

Fourteen comment letters were received through October 25, 2004, including one form letter with 280 names. Seven individuals combined attended both public meetings. All comments received were reviewed and considered by the NPS in the preparation of this FONSI. The public comments received resulted in clarification of policy and/or procedures and did not provide substantive information to change the plan's purpose, goals, objectives, selected alternative, and environmental impact analysis. Comment

topics included water access, water quality, noxious weeds, historic grazing use, public involvement, five party agreement, and alternatives.

IMPAIRMENT

The impacts resulting from the selected action (Alternative 3) will not impair any park resource or value necessary to fulfill specific purposes, values, and significance for which the park was established and is to be managed. Alternative 3 with the identified mitigation will not impair park resources or values and will not violate the NPS Organic Act.

DECISION

Based on the environmental impact analysis, the capacity of the mitigation measures to reduce or eliminate impacts, and with due consideration of public comment and consultations completed, the NPS has determined that the proposed action is not a major federal action that would significantly affect the human environment. There are no adverse cumulative impacts or indirect effects foreseen. Therefore, an environmental impact statement will not be prepared, and the proposed action may be implemented subject to additional analysis and consultation as described herein.

Recommended: Deborah Burd
Date: January 12, 2005
Superintendent
Lake Roosevelt National Recreation Area

Approved: Jonathan D. Jarvis
Date: Feb 9, 2005
Regional Director
Pacific West Region